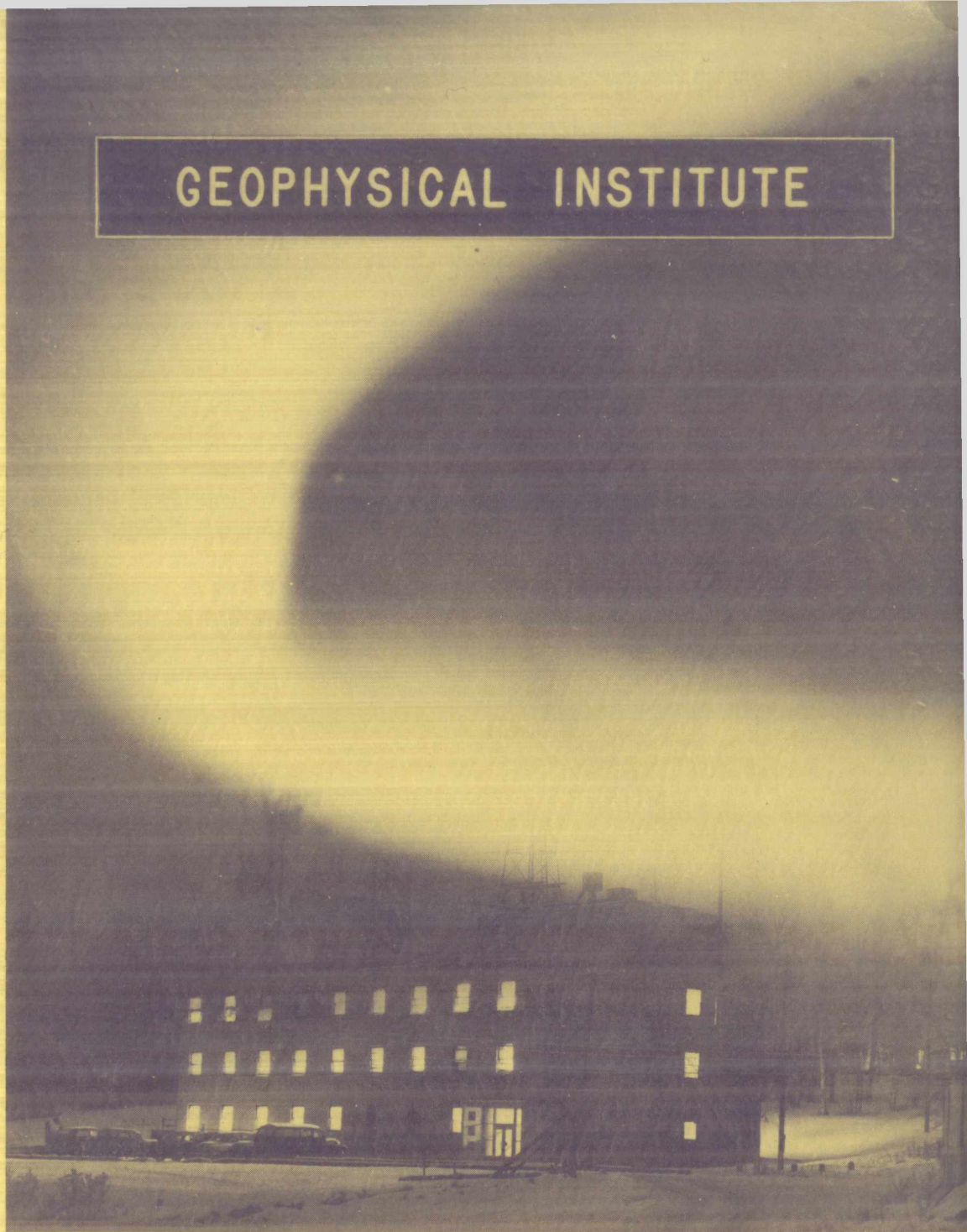


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BRIEF DESCRIPTIONS OF AURORAL DISPLAYS OVER ALASKA
DURING 1957-58

by

T. Neil Davis

Scientific Report No. 3
NSF Grant No. Y/22.6/327

Principal Investigator: C. T. Elvey, Director

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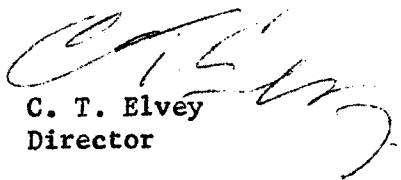
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FOREWORD

This report resulted from the preparation of narrative accounts of selected auroras to be used as indicated at the 5th CSAGI meeting in Moscow to complete world-wide descriptions of the major auroras occurring during the IGY. Since the information utilized in preparing these descriptions was readily available from other work, completed or underway, it was logical to expand the descriptions to include all auroras seen during the observing season 1957-58.

It is intended that this report will serve as a working description of the auroras incident over Alaska during the period covered. It may aid in the selection of nights for intensive study as well as providing information about broad-scale aspects of the aurora when used in conjunction with other data.

INTRODUCTION

This report consists of a brief description of the nightly auroral displays observed during the 1957-58 observing season, using all-sky cameras and a patrol spectrograph in the northern auroral zone. The information presented here is a by-product of more detailed analyses of the instrumental auroral data obtained in Alaska. At this time, only the data from the 1957-58 observing season has been sufficiently analyzed to be presented and this analysis is only preliminary.

The all-sky cameras utilized to prepare this compilation form an approximate geomagnetic north-south array covering the latitude zone 60° - 70° north geomagnetic latitude, with the patrol spectrograph at College being located near the middle of the zone. The locations of the all-sky cameras in geomagnetic co-ordinates are Barrow 68.5° N, 241.2° E; Fort Yukon 66.7° N, 257.0° W; Bettles 65.8° N, 251.0° E, College 64.6° N, 256.6° E and Farewell 61.4° N, 253.4° E.

EXPLANATORY NOTES

All dates and times are in Universal Time. Following each date is a number in parentheses obtained from an "activity" index based on College all-sky films as prepared by Helen M. Tryon (1959). These numbers ranging from 0 to 17 are an indication of the magnitude of each display as determined from the College camera. The times of presence and southern extent of auroras are listed only to the hour, within which the events occurred. Changes from quiet to active forms (breakups) are listed to the minute and will usually be correct

to within 5 minutes. Those times listed in parentheses are those of questionable changes, so indicated because it was not certain that only quiet forms existed prior to the time of change. Those cameras photographing aurora during each display are listed using the following abbreviations:

Barrow - Bw

Bettles - Bt

Fort Yukon - Fy

College - Co

Farewell - Fw.

Included with the notes on each display is a summary of the College patrol spectrograph scalings obtained under the supervision of Albert E. Belon. Relative intensity of the 3914 N_2^+ band, apparently a good indicator of the overall auroral intensity, is given on a scale of 0 to 4 as is the $\text{H}_{\alpha,\beta}$ radiation. The two scales are, however, not related. Positions of the radiations along the meridian are given as N, Z and S indicating north, zenith, and south or by N_z and S_z indicating zenith positions of approximately 45° . Also given are the ratios of 6300/5577. A ratio less than 1 shows that the aurora was primarily green and a ratio greater than 1 occurs when the aurora is primarily red.

Included at the end of the report is a plot (Fig. 1) of nightly sums of the College K-indices and the auroral index resulting from Tryon's work. The correlation between the auroral index and K-indices sums is occasionally good but at other times is quite poor. In part, the lack of a uniform degree of correlation is due to the dependence of the auroral index upon the extent of cloud cover over College.

22 September 1957 U.T. (-) Aurora visible overhead at 61.4° during 06-13 hrs. Aurora extended south of 59.9° during 06 and 13 hrs. Changes from quiet to active forms observed at Farewell at 0630, 1030 and (1347). (Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14
3914	-	-	12 to S	1N & S	-
H α, β	-	-	-	-	-
6300/5577	-	-	1N to Z	-	-

23 September 1957 U.T. (-) Aurora visible overhead at 61.4° during 06-10 and 12-13 hrs. Aurora extended south of 59.9° during 06 hr. Changes from quiet to active forms observed at Farewell at 0620, 0727, and 1047. No spectrograph scalings. (Fw)

24 September 1957 U.T. (-) Aurora visible overhead at 61.4° during 09 hr. Aurora extended south of 60.9° during 09 hr. Change from quiet to active forms observed at Farewell at (0920). (Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14
3914	Aurora mostly in N	Aurora mostly in N	Aurora 45° S	Bright Aurora	Bright Aurora
H α, β	-	-	-	-	-
6300/5577	-	-	-	-	-

25 September 1957 U.T. (-) Farewell, cloudy. No spectrograph scalings.

26 September 1957 U.T. (-) Farewell, cloudy. No spectrograph scalings.

27 September 1957 U.T. (-) Farewell, cloudy. No spectrograph scalings.

Aurora extremely faint.

28 September 1957 U.T. (-) Farewell, cloudy. No spectrograph scalings.

Aurora very faint.

29 September 1957 U.T. (-) Aurora visible overhead at 61.4° during 10-14 hrs. Aurora extended south of 59.9° during 12 hr. Changes from quiet to active forms observed at Farewell at 1123 and 1340. (Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora (diffuse)	Red aurora	Aurora mostly Z & S	Aurora mostly Z & S	Aurora mostly Z & S	Aurora mostly Z & S
H α, β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

30 September 1957 U.T. (-) Aurora visible overhead at 61.4° during 08-14 hrs. Aurora extended south of 59.9° during 09 hr. Changes from quiet to active forms observed at Farewell at 0852 and (1130). (Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Red Aurora in N & S	Red Aurora in Z & S	Red Aurora in NZ & S	Aurora mostly in Z & S	Aurora in far S	
H α, β	-	-	-	-	-	-
6300/5577	1 to >1	1 to >1	-	-	-	-

1 October 1957 U.T. (-) Farewell, camera trouble. No aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora very weak	Aurora very weak	Aurora average	Aurora very weak	Aurora very weak	Aurora bright
H α, β	-	-	-	-	-	-
6300/5577	>1	>1	<1	<1	<1	~ 1

2 October 1957 U.T. (-) Farewell, cloudy, Barrow cloudy. No spectrograph scalings. Aurora extremely weak.

3 October 1957 U.T. (-) Farewell, cloudy. Barrow, cloudy and camera trouble.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora very weak	Aurora very weak	Aurora weak	Aurora	Aurora bright	Aurora
H α , β	-	-	-	-	-	-
6300/5577	>1	>1	~ 1	<1	<<1	<<1

4 October 1957 U.T. (-) Farewell, cloudy with aurora in north. Barrow, cloudy. Aurora extended south of 62.9° during 06 hr. Change from quiet to active forms observed at Farewell at (0620).

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora weak	Aurora weak	Aurora bright in north	Aurora bright in SZ to N	Aurora weak in SZ to N	Aurora weak in SZ
H α , β	-	-	1N	1 SZ to N	-	-
6300/5577	~ 1	<1	<<1	<<1	<<1	<<1

5 October 1957 U.T. (-) Barrow, cloudy. Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora weak	Aurora weak	Aurora in N,Z,S	Aurora in N	Aurora weak	Aurora weak
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

6 October 1957 U.T. (-) Barrow, cloudy and no aurora. Farewell, partly cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	weak Aurora in N	weak Aurora in N	weak Aurora in N	Aurora in N	Aurora in N weak	Aurora very weak in N
H α, β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

7 October 1957 U.T. (-) Barrow and Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	very weak aurora in N	Aurora in N	Aurora in N & Z & S	Aurora in N & Z & S	weak aurora in N & Z & S	
H α, β	-	-	NZ	-	-	-
6300/5577	-	-	~ 1	$\ll 1$	< 1	~ 1

8 October 1957 U.T. (-) Barrow and Farewell, cloudy. No spectrograph scalings. Bright moonlight and light sky.

9 October 1957 U.T. (-) Barrow, partly cloudy and no aurora. Farewell, cloudy. No spectrograph scalings. Aurora (weak) in far north.

10 October 1957 U.T. (-) Barrow and Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Weak aurora (red in SZ)	Bright aurora mostly Z	Aurora mostly Z	Aurora mostly Z	Bright aurora mostly Z	Bright aurora
H α, β	NZ	-	-	-	-	
6300/5577	-	-	-	-	-	~ 1

11 October 1957 U.T. (-) Barrow and Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora bright mostly Z	Aurora bright mostly Z	Bright aurora	Bright aurora	Bright aurora	Bright aurora
H α , β	-	-	-	-	-	-
6300/5577	>1	-	-	-	-	-

12 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 07-08 hrs.
Visible overhead 65.8° during 09-12 hrs. Aurora extended south of 62.9° during
12 and 14 hrs. Changes from quiet to active forms observed at Bettles at 1008
and 1408. (Bw, Bt, Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora very weak	Aurora very weak	Bright aurora	Weak Aurora	Aurora	Weak Aurora
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

13 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 04-06 hrs.
Aurora extended south of 62.9° during 11 and 13 hrs. Change from quiet to
active forms observed at Bettles at 2014.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora in far N (red in NZ)	Aurora	Aurora	Bright aurora	Aurora	Bright aurora
H α , β	Strong in Z	-	-	-	-	-
6300/5577	~1	-	-	-	-	-

14 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 04-08, 10-11, 13-14, and 16 hrs. Visible overhead at 61.4° during 05-09 hrs. Aurora extended south of 59.9° during 05 hr. Changes from quiet to active forms observed at Bettles at 0630, 1107, and 1340. (Bt - Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Bright aurora	Bright aurora	Very bright aurora	Very bright aurora	Aurora	Aurora
H_{α}, β	1 SZ	1 SZ	Strong in S	Strong in S	Strong all over	Weak
6300/5577	~ 1	< 1	< 1	< 1	> 1 at Z	> 1 at Z

15 October 1957 U.T. (-) Barrow, cloudy. Bettles, partly cloudy and no aurora. Farewell, cloudy and aurora in north. Aurora extended south of 62.9° during 12 hr. Change from quiet to active forms observed at Farewell at 1218. (Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Very weak aurora	Very weak aurora	Aurora in NZ	Aurora in N,Z,S	Bright Aurora in Z, S	Bright aurora in N, Z,S
H_{α}, β	-	-	1SZ	1SZ	-	-
6300/5577	~ 1	< 1	< 1	< 1	< 1	< 1

16 October 1957 U.T. (-) Barrow and Bettles, cloudy. Farewell, partly cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2 <u>N to S</u>	0 + <u>N</u>	0 + <u>N</u> & <u>N_Z & S</u>	0 + <u>N_Z</u> <u>to S</u>	0 + <u>N to S</u>	1 <u>N to S</u>
H _{α,β}	-	-	-	-	-	-
6300/5577	1 <u>N to S</u>	< 1	< 1	< 1	< 1	1 <u>N to S</u>

17 October 1957 (U.T.) (-) Aurora visible overhead at 61.4° during 11-12 hrs. Apparent southern extent 60.9° reached during 11 hr. Change from quiet to active forms observed at Farewell at 1130. (Fw)

U. T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	0 + <u>N</u>	1 <u>N to S</u>	2 <u>N_Z to S</u>	3 <u>N_Z to S</u>	1 <u>N_Z to S_Z</u>
H _{α,β}	-	-	-	-	-	-
6300/5577	>1 <u>N to S</u>	1 <u>N to S</u>	<1 <u>N to S</u>	<1 <u>N to S</u>	<1 <u>N to S</u>	< 1

18 October 1957 (U.T.) (-) Barrow and Bettles, cloudy. Farewell, partly cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	-	-	-	1 <u>N_Z to S</u>
H _{α,β}	-	-	-	-	-	-
6300/5577	1 <u>N to S</u>	1 <u>N to S</u>	>1 <u>N</u>	1 <u>N to S</u>	-	-

19 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 06-07 and 11-13 hrs. Apparent southern extent 67.0° reached during 11 hr. Changes from quiet to active forms observed at Barrow at 0835 and 1245. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	0+N to S	0+N to S	-	2N to S	-
H α , β	-	-	-	-	-	-
6300/5577	>1N to S	<1N to S	<1	-	<1	1N to S

20 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 08-10, 12, and 14 hrs. Apparent southern extent 62.9° reached at 11 and 13 hrs. Change from quiet to active forms observed at Barrow at 0915. No spectrograph scalings. (Bw-Fw)

21 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 05-06 and 12 hrs. Visible overhead at 65.8° during 07 hr. Visible overhead at 61.4° during 12 hr. Apparent southern extent 60.9° reached at 12 hr. Change from quiet to active forms observed at Bettles at 1245. No spectrograph scalings. (Bw-Bt-Fw)

22 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 10 hr. Aurora extended south of 64.6° during 08 hr. Change from quiet to active forms observed at Bettles at 1038. No spectrograph scalings. (Bt)

23 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 07 and 09-10 hrs. Aurora extended south of 64.1° during 08 and 11 hrs. Change from quiet to active forms observed at Bettles at 0931. No spectrograph scalings. (Bt)

24 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 09-12 and 15 hrs. Visible overhead at 65.8° during 08, and 11-12 hrs. Change from quiet to active forms observed at Bettles at 1205. No spectrograph scalings. (Bw-Bt)

25 October 1957 U.T. (-) Barrow, cloudy. Bettles, partly cloudy. Farewell, cloudy. No spectrograph scalings.

26 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 05 and 07-11 hrs. Visible overhead at 65.8° during 09-11 hrs. Aurora extended south of 64.3° during 09 hr. Change from quiet to active forms observed at Bettles at 0952. No spectrograph scalings. (Bw-Bt)

27 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 11-12 and 15 hrs. Aurora extended south of 62.9° during 11 hr. Change from quiet to active forms observed at Bettles at 1130. (Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Weak aurora	Aurora to N	Aurora to N	Aurora at Z	Bright aurora	Weak aurora
H_{α}, β	-	-	-	-	-	-
6300/5577	~ 1	~ 1	~ 1	< 1	-	-

28 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 06-07 hrs. Visible overhead at 65.8° during 06-11 hrs. Apparent southern extent 64.3° reached during 06, 08, and 11 hrs. Changes from quiet to active forms observed at Bettles at (0735) and 1001. (Bw-Bt)

U. T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	No aurora	Aurora Z-N	Aurora	Aurora at Z	Aurora at Z	Aurora very weak
H_{α}, β	-	-	-	-	-	-
6300/5577	< 1	< 1	< 1	-	-	-

29 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 11-15 hrs. Apparent southern extent 64.3° reached during 12 hr. Change from quiet to active forms observed at Bettles at (1230). (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Weak aurora	Very weak aurora	Strong aurora	Very intense aurora	Intense aurora	Intense aurora
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	> 1	< 1	< 1	< 1	< 1	< 1

30 October 1957 U.T. (-) Aurora visible overhead at 68.5° during 07, 11, and 15 hrs. Aurora extended south of 67.0° during 15 hr. Change from quiet to active forms observed at Barrow at 0740. No spectrograph scalings.

31 October 1957 U.T. (-) Aurora visible overhead at 65.8° during 09-13 hrs. Aurora extended south of 64.3° during 11 hr. Changes from quiet to active forms observed at Bettles at 0932 and 1212. (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Very weak aurora	Aurora at N	Weak aurora at N	Aurora at Z	Intense aurora	Weak Aurora
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

1 November 1957 U.T. (-) Aurora visible overhead at 65.8° during 07-09 hrs. Apparent southern extent 65.3° reached during 09 hr.. Change from quiet to active forms observed at Bettles at 0906. (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Weak aurora	Weak aurora	Weak aurora	No aurora	No aurora	Weak aurora
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	> 1	< 1	< 1	< 1	< 1	< 1

2 November 1957 U.T. (-) Aurora visible overhead at 68.5° during 05 and 10-12 hrs. Visible overhead at 65.8° during 10 hr. Aurora extended south of 64.3° during 10 hr: Change from quiet to active forms observed at Bettles at 1017. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	No aurora	No aurora	Very weak	Aurora	Aurora	Aurora
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	>1	<1	<1

3 November 1957 U.T. (-) Aurora visible overhead at 65.8° during 07-09 and 11-12 hrs. Aurora extended south of 62.9° during 11 hr. Change from quiet to active forms observed at Bettles at 1200. No spectrograph scalings. (Bt-Fw)

4 November 1957 U.T. (-) Barrow, cloudy. Bettles, partly cloudy and no aurora. College, camera trouble. Farewell, no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 + <u>N to S</u>	-	-	0 + <u>N_Z to S</u>	-	-
H α , β	-	-	-	-	-	-
6300/5577	<1	-	-	<1	<1	<1

5 November 1957 U.T. (-) Barrow and Bettles, cloudy. College, camera trouble. Farewell, no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1 <u>N_Z to S</u>	2 <u>N_Z to S</u>	3 <u>N_Z to S</u>	2S	1 <u>N_Z to S</u>	0 + <u>N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	1 <u>N to S</u>	<1	<1	1 <u>N to S</u>	<1	<1

6 November 1957 U.T. (-) Barrow and Bettles, cloudy. College, camera troubles.
Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N_Z to S</u>	<u>3N_Z to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>	<u>3N to S</u>	<u>2N to S_Z & S</u>
H α, β	-	-	-	-	<u>3N to S_Z</u>	<u>2N</u>
6300/5577	<u>1N to S</u>	-	<1	<u>1N to S</u>	<1	<u>1N to S_Z & S</u>

7 November 1957 U.T. (-) Barrow and Bettles, cloudy. College, camera trouble.
Farewell, partly cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N_Z to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>4N_Z to S</u>
H α, β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<u>> 1N to S</u>	<u>1N to S</u>	<u>1N to S</u>	<1	<1

8 November 1957 U.T. (-) Aurora visible overhead at 68.5° during 07 hr.
Aurora extended south of 67.0° during 07 hr. Change from quiet to active forms observed at Barrow at 0740. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>2N_Z to S</u>	<u>4N to S</u>	<u>4N_Z to S</u>	<u>3N_Z to S</u>	<u>3N to S</u>
H α, β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<1	<1	<1	<1

9 November 1957 U.T. (-) Aurora visible overhead at 68.5° during 04-05 hrs.
Aurora extended south of 67.0° during 04 hr. Change from quiet to active forms observed at Barrow at 0430. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>3N to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>	<u>4N to S</u>	<u>3N to S</u>
H α, β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<u>1N to S</u>	<1	<1	<1

10 November 1957 U.T. (-) Aurora visible overhead at 68.5° during 04-05 and 08 hrs. Visible overhead at 65.8° during 04 and 08 hrs. Aurora extended south of 62.9° during 09 hr. Change from quiet to active forms observed at Bettles at 0842. (Bw-Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<1	<1	<1	<1	<1	<1

11 November 1957 U.T. (-) Aurora visible overhead at 68.5° during 08 and 10-11 hrs. Aurora extended south of 67.0° during 08 hr. Changes from quiet to active forms observed at Barrow at 0850 and (1038). (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N_Z to S_Z</u>	<u>2N_Z to S</u>	<u>4N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N_Z to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<u>1N to S</u>	<1	<1	<1

12 November 1957 U.T. (4) Aurora visible overhead at 65.8° during 08-09 and 14-15 hrs. Visible overhead at 64.6° during 08-09 and 12 hrs. Apparent southern extent 63.1° reached at 09 and 11 hrs. Change from quiet to active forms observed at Bettles at 0858. (Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>4N to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S_Z</u>	<u>2N_Z to S</u>	<u>4N to S</u>	<u>4N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<u>1N to S</u>	<1	<1	<1

13 November 1957 U.T. (1) Aurora visible overhead at 68.5° during 05-13 hrs. Visible overhead at 65.8° during 09-10 hrs. Aurora extended south of 63.0° at 09 hr. Changes from quiet to active forms observed at College at 1147 and (1309). (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 + <u>N_ZS</u>	0 + <u>N_ZS</u>	<u>2N_ZS</u>	<u>3N_Z to S_Z</u>	<u>4N_Z to S</u>	<u>3N_Z</u>
H α, β	-	-	-	-	-	-
6300/5577	<1 to 1	<1	1 <u>N to S</u>	<1 to 1	<1	<1 to 1

14 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 08, 10, and 12-13 hrs. Aurora extended south of 67.0° during 10 and 13 hrs. Change from quiet to active forms observed at Barrow at 1019. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 0 ⁺	Aurora 1 ⁻	Aurora 1 ⁻	Aurora 1	Aurora 1 ⁻	Aurora 1 ⁻
H α, β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

15 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 06-10 hrs. Aurora extended south of 67.0 during 06 hr. Changes from quiet to active forms observed at Barrow at 0705 and 1015. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 + <u>N to S</u>	0 + <u>N to S</u>	<u>3N to S</u>	<u>2N_Z to S</u>	<u>2N_Z to S</u>	<u>2N_Z to S_Z</u>
H α, β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<1	<1	<1	<1

16 November 1957 U.T. (1) Aurora visible overhead at 68.5° during 05-14 hrs. Visible overhead at 65.8° during 10-15 hrs. Aurora extended south of 63.1° during 10 hr. Changes from quiet to active forms observed at Bettles at 1037 and (1159) and (1428).

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$0 + N_Z \& S_Z$	$1N_Z, Z, S$	$3N \text{ to } S_Z$	$3N_Z \text{ to } S$	$3N_Z \text{ to } S$	$3N_Z \text{ to } S_Z$
H_{α}, β	-	-	-	-	-	-
6300/5577	< 1	< 1	< 1	< 1	< 1	< 1

17 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 10-12 hrs. Aurora extended south of 64.3° during 14 hr. Changes from quiet to active forms observed at Barrow at 1156 and 1250. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$0 + N_Z \text{ to } S_Z$	$0 + N_Z \text{ to } S_Z$	$0 + N_Z \text{ to } S_Z$	$1N \text{ to } S$	$2N \text{ to } S$
H_{α}, β	-	-	-	-	-	-
6300/5577	$1N \text{ to } S$	< 1	< 1	< 1	< 1	< 1

18 November 1957 U.T. (5) Aurora visible overhead at 68.5° during 03-09 and 11-12 hrs. Visible overhead at 65.8° during 05-07 and 18 hrs. Visible overhead at 61.4° during 08-12 hrs. Aurora extended south of 59.9° during 10 hr. Changes from quiet to active forms observed at Bettles at 0656, 1000, and 1354. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$2N, Z, S$	$4N_Z \text{ to } S$	$4N_Z \text{ to } S$	$4N, Z, S$	$4S_Z \text{ to } S$	-
H_{α}, β	-	$2N_Z \text{ to } S$	-	-	$3S_Z \text{ to } S$	-
6300/5577	< 1 to $1N$ to S	< 1 to $1N$ to S	< 1 to 1	< 1 to 1	< 1 to $1N$ to S	-

19 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 05-16 hrs. Visible overhead at 65.8° during 07 hr. Aurora extended south of 65.5° during 07 hr. Changes from quiet to active forms observed at College at (0610) and (1104). No spectrograph scalings. (Bw-Bt-Co-Fw)

20 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 07-09 and 11-13 hrs. Visible overhead at 65.8° during 09-11 hrs. Apparent southern extent 62.9° reached at 12 hr. Changes from quiet to active forms observed at Bettles at 1011 and 1200. (Bw-Bt-Fw) No spectrograph scalings.

21 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 12-13 hrs. Apparent southern extent 67.0° reached during 13 hr. Change from quiet to active forms observed at Barrow at 1234. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 + N_z to S_z	0 + N_z to S	1N to S	0 + N to S	0+N to S	0+N to S
$H_{\alpha,\beta}$	-	-	-	-	-	-
6300/5577	<1	<1	<1	<1	<1	<1

22 November 1957 U.T. (0) Barrow, camera trouble. Bettles, College, and Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 + N_Z	0 + N_Z to S_Z	0 + N to S	1N to S	1N to S	1 N_Z to S
H α , β	-	-	-	-	-	-
6300/5577	1N to S	< 1	< 1	< 1	1N to S	1N to S

23 November 1957 U.T. (0) Aurora visible overhead at 65.9° during 10-12 hrs. Aurora extended south of 64.3° during 10 hr.. Change from quiet to active forms observed at Bettles at 1152. (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	0 + N_Z to S	1 N_Z to S	2 N_Z to S_Z	2 N_Z to S_Z	0 + N_Z to S
H α , β	-	-	-	-	-	-
6300/5577	1N to S	1N to S	1N to S	1N to S	1N to S	1N to S

24 November 1957 U.T. (8) Aurora visible overhead at 68.5° during 11-12 hrs. Visible overhead at 64.6° during 08, 10-12, 14, and 16 hrs. Apparent southern extent 64.1° reached during 08 and 11 hrs. Changes from quiet to active forms observed at College at 0820, 1047, and 1432. (Bw-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	3N to S	-	-	-
H α , β	-	-	-	-	-	-
6300/5577	-	1N to S	1N	-	-	-

25 November 1957 U.T. (12) Aurora visible overhead at 64.6° during 06-11, 14, and 16 hrs. Visible overhead at 61.4° during 08-11 hrs. Aurora extended south of 59.9° during 08 hr. Changes from quiet to active forms observed at College at 0715, 1000, and 1647. No spectrograph scalings. (Co-Fw)

26 November 1957 U.T. (8) Aurora visible overhead at 68.5° during 02-10, 12, and 14-15 hrs. Visible overhead at 61.4° during 14-15 hrs. Aurora extended south of 59.9° during 15 hr. Changes from quiet to active forms observed at College at 0815, 1152, and (1414). (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>3N_Z to S</u>	<u>3N_Z to S</u>	<u>4 + N_Z to S</u>	<u>4S_Z to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>
H α , β	<u>1N</u>	<u>3S_Z to S</u>	<u>4S</u>	<u>4S</u>	<u>4N to S</u>	<u>4N_Z to S</u>
6300/5577	<u>1N to S</u>	<u>1N to S</u>	<u><1 to >1 N to S</u>	<u>1S_Z to S</u>	<u><1 to >1 N to S</u>	<u>1N to S to >1N-S</u>

27 November 1957 U.T. (5) Aurora visible overhead at 68.5° during 02-03, 05-07, 09-13, and 15 hrs. Visible overhead at 64.6° during 04 hr. Aurora extended south of 63.1° during 06 hr. Changes from quiet to active forms observed at Barrow at 0630, 0707, 0747, 1011, and 1320. (Bw-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>4N_Z to S</u>	<u>3S_Z to S</u>	<u>3N_Z to S</u>	<u>4N to S</u>	<u>2N_Z to S</u>	<u>3N_Z to S</u>
H α , β	-	-	-	<u>3S</u>	<u>2S_Z</u>	<u>1N_Z</u>
6300/5577	<u>>1N to S</u>	<u>>1N to S</u>	<u>>1N to S</u>	<u><1</u>	<u>1N to S</u>	<u>1N to S</u>

28 November 1957 U.T. (7) Aurora visible overhead at 68.5° during 06-16 hrs. Aurora extended south of 59.9° during 09 hr. Changes from quiet to active forms observed at College at 1045, 1316, and (1506). (Bw-Co-Fw).

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>$2N_Z$ to S</u>	<u>$4N_Z$ to S</u>	<u>$4N_Z$ to S</u>	<u>$4N_Z$ to S</u>	<u>$4N$ to S</u>	<u>$4N_Z$ to S</u>
$H\alpha, \beta$	-	-	-	-	-	-
6300/5577	<1	<1 to >1	<u>N to S</u>	<u>N to S</u>	<u>N to S</u>	<1

29 November 1957 U.T. (6) Aurora visible overhead at 68.5° during 06-13 and 15 hrs. Aurora extended south of 67.0° during 08 and 12 hrs. Changes from quiet to active forms observed at Barrow at (1030), 1141, and (1308). (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>$2N$ to S</u>	<u>$2N$ to S</u>	<u>$4N$ to S</u>	<u>$4N$ to S</u>	<u>$4N_Z$ to S</u>	<u>$4N$ to S</u>
$H\alpha, \beta$	-	<u>$3N$ to S</u>	<u>$3S$</u>	-	-	-
6300/5577	<1	<u>N to S</u>	<1	<1	<1	<1

30 November 1957 U.T. (0) Aurora visible overhead at 68.5° during 06-07 and 09-12 hrs. Visible overhead at 65.8° during 11 hr. Aurora extended south of 65.5° during 11 hr. Changes from quiet to active forms observed at College at (1020) and (1511). (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>$1S_Z$ to S</u>	<u>$1N, Z, S$</u>	<u>$1N_Z$ to S_Z</u>	<u>$2N$ to S_Z</u>	<u>$1N$ to S_Z</u>	<u>$0 + S_Z$ to S</u>
$H\alpha, \beta$	-	<u>$3S$</u>	-	-	-	-
6300/5577	<u>$1N \& S_Z$ to S</u>	<u>$1N$ to S</u>	<u><1 to $1N-S$</u>	<u><1 to $1N-S$</u>	<u>$1N-S$</u>	<u>$1N$ to S</u>

1 December 1957 U.T. (2) Aurora visible overhead at 68.5° during 04, 06-10, and 13-14 hrs. Visible overhead at 65.8° during 06-13 and 15-17 hrs.

Apparent southern extent 63.1° reached during 10 hr. Changes from quiet to active forms observed at Bettles at 1040 and (1310). (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>3N to S</u>	<u>4N_Z to S</u>	<u>4N to S</u>	<u>3N_Z to S</u>	<u>4N to S</u>	<u>4N to S</u>
H α , β	<u>2N to S</u>	<u>4N to S</u>	<u>4N to S</u>	-	-	-
6300/5577	<u>1N to S</u>	<1	<u>1N to S</u>	> <u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>

2 December 1957 U.T. (1) Aurora visible overhead at 68.5° during 05-07, 10-12, and 14 hrs. Visible overhead at 65.8° during 10-14 hrs. Apparent southern extent 61.9° reached during 13 hr. Changes from quiet to active forms observed at Bettles at (1010) and (1305). (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14
3914	<u>2N to S</u>	<u>2N to S</u>	<u>4N to S</u>	-	-
H α , β	-	-	-	-	-
6300/5577	<u>1N to S</u>	<u>1N to S</u>	<1	-	-

3 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 06-07 and 11-13 hrs. Visible overhead at 65.8° during 12 and 14 hrs. Aurora extended south of 64.3° during 09 and 16 hrs. Changes from quiet to active forms observed at Bettles at (1220) and (1405). (Bw-Bt)

U. T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N to S</u>	<u>2N to S</u>	<u>2N to S</u>	<u>3N to S</u>	<u>3S_Z & S</u>	<u>3N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<u>1N to S</u>	<1	<1	<1	<1

4 December 1957 U.T. (-) Barrow and Bettles, cloudy. College, camera trouble.
Farewell, partly cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N to S</u>	<u>2N to S</u>	<u>2N to S</u>	<u>3N to S</u>	<u>2N to S</u>	<u>2N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<1	<1	<u>1N to S</u>	<1	<1	<1

5 December 1957 U.T. (2) Aurora visible overhead at 68.5° during 06-08 and 13 hrs. Visible overhead at 65.8° during 14 hr. Aurora extended south of 64.3° during 14 hr. Change from quiet to active forms observed at Bettles at (1420). (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N to S</u>	<u>4N₂ to S</u>	<u>3N₂ to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<1	<1	<1	> <u>1N to S</u>

6 December 1957 U.T. (0) Barrow and Bettles, cloudy. College, cloudy.
Farewell, partly cloudy with aurora in far north.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	<1	<1	<1	<1	<1	<1

7 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 08 hr.

Aurora extended south of 67.0° during 07 hr. Change from quiet to active forms observed at Barrow at 0813. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>3N to S</u>	<u>4N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>4N to S</u>
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<1	<1	<u>1N to S</u>	<1	<1

8 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 09-12 hrs.

Aurora extended south of 67.0° during 09 and 11 hrs. Changes from quiet to active forms observed at Barrow at 0939 and (1130). (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N to S</u>	<u>1N₂ & S</u>	<u>3N</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N to S</u>
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	<1	<1	<1	<1	<1	<u>1N to S</u>

9 December 1957 U.T. (0) Barrow and Bettles, cloudy. College, camera trouble. Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N to S</u>	<u>4N to S</u>
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	<u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>	<1

10 December 1957 U.T. (0) Barrow, Bettles, College, and Farewell, cloudy. No spectrograph scalings.

11 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 03-06 and 08 hrs. Visible overhead at 61.4° during 05-07 hrs. Aurora extended south of 59.9° during 05 and 07 hrs. Change from quiet to active forms observed at Barrow at 0541. No spectrograph scalings. (Bw-Co-Fw)

12 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 05-07, 09-10, and 13 hrs. Visible overhead at 65.8° during 08-09 hrs. Aurora extended south of 64.3° during 08 hr. Change from quiet to active forms observed at Bettles at 0910. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1-	Aurora 1	Aurora 4	Aurora 2	Aurora 2	Aurora 2
H α, β	-	1	1	-	-	-
6300/5577	-	-	-	-	-	-

13 December 1957 U.T. (1) Aurora visible overhead at 68.5° during 08-10 hrs. Visible overhead at 65.8° during 09 hr. Apparent southern extent 61.9° reached during 12 hr. Changes from quiet to active forms observed at Barrow at 0950 and 1020. (Bw-Bt-Co-Fw).

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1-	Aurora 1-	Aurora 2	Aurora 4	Aurora 3	Aurora 3
H α, β	-	1- <u>in N</u>	3 <u>in SZ</u>	3	2-	-
6300/5577	-	-	-	-	-	-

14 December 1957 U.T. (0) Aurora visible overhead at 68.5° during 08, 10 and 12-13 hrs. Aurora extended south of 67.0° during 10 and 13 hrs. Changes from quiet to active forms observed at Barrow at 1015 and 1237. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	0 ⁺	1 ⁻	1 ⁻	1	1 ⁻	1 ⁻
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

15 December 1957 U.T. (1) Aurora visible overhead at 68.5° during 07-10, 12, and 14 hrs. Visible overhead at 65.8° during 08-09, 11-12, and 15 hrs. Visible overhead at 61.4° during 12 and 14 hrs. Aurora extended south of 59.9° during 14 hr. Changes from quiet to active forms observed at Bettles at 0901 and 1234. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1 ⁻	Aurora 1 ⁻	Aurora 1	Aurora 3	Aurora 2	Aurora 3 ⁺
H α , β	-	-	3 mostly SZ	2	2 mostly SZ	2 mostly S
6300/5577	-	-	-	-	-	-

16 December 1957 U.T. (2) Aurora visible overhead at 68.5° during 07-12 and 16 hrs. Visible overhead at 64.6° during 08 and 10-11 hrs. Aurora extended south of 63.1° during 10 hr. Change from quiet to active forms observed at College at 1118. (Bw-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1 ⁻ <u>in N</u>	2 <u>in N</u>	2 ⁻ <u>in N</u>	3	3	1
H α , β	-	-	-	3 mostly <u>SZ</u>	-	2 <u>in N</u>
6300/5577	-	-	-	-	-	-

17 December 1957 U.T. (2) Aurora visible overhead at 68.5° during 03-04, 06-08, and 10-13 hrs. Visible overhead at 65.8° during 06-07 and 14-15 hrs. Aurora extended south of 63.5° during 07 hr. Change from quiet to active forms observed at College at 0721. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1 mostly N	Aurora 3 mostly N	Aurora 2 mostly Z	Aurora 2 mostly Z	Aurora 2 mostly NZ & N	Aurora 2 mostly NZ & N
$H_{\alpha, \beta}$	-	2 mostly SZ	3 mostly NZ	2 mostly NZ	2 mostly N	2 mostly N
6300/5577	-	-	-	-	-	-

18 December 1957 U.T. (5) Aurora visible overhead at 68.5° during 10-12 and 16-19 hrs. Visible overhead at 65.8° during 08-15 hrs. Aurora extended south of 62.9° during 11 hr. Changes from quiet to active forms observed at College at 1117 and 1535. (Bw-Bt-Co-Fw)

U. T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 1	Aurora 2	Aurora 4	Aurora 4	Aurora 3 mostly NZ
$H_{\alpha, \beta}$	-	-	2 mostly NZ	3 mostly SZ	4 mostly SZ	-
6300/5577	-	-	-	-	-	-

19 December 1957 U.T. (8) Aurora visible overhead at 68.5° during 05-11 and 13-16 hrs. Visible overhead at 65.8° during 06-12 hrs. Aurora extended south of 62.9° during 11 and 14 hrs. Changes from quiet to active forms observed at College at 0840, 1131, and 1239. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1N & S	4N	2 mostly Z	4Z & S	4Z & S	4Z & S
$H_{\alpha, \beta}$	-	3 mostly SZ	3 mostly S&Z	4 mostly S&Z	4 mostly Z	4 mostly Z
6300/5577	-	-	-	-	-	-

20 December 1957 U.T. (7) Aurora visible overhead at 68.5° during 05-08, 10-11, and 17-18 hrs. Visible overhead at 65.8° during 05-11 and 14-15 hrs. Apparent southern extent 62.9° reached during 07 and 12 hrs. Changes from quiet to active forms observed at College at 0418, 0720, and 0910.

(Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>3N,Z</u>	<u>3SZ</u>	<u>3SZ</u>	3 mostly Z	3 <u>S&Z</u>	2 ⁺ <u>Z & S</u>
H α , β	2 mostly SZ	4 in <u>SZ</u>	4 mostly SZ	3 in <u>SZ</u>	3 mostly Z	-
6300/5577	~1 in <u>N</u> to >1	<1 to ~1 <u>NZ</u>	<1	-	-	-

21 December 1957 U.T. (5) Aurora visible overhead at 68.5° during 04-13 and 16 hrs. Visible overhead at 64.6° during 04, 06, and 08 hrs. Apparent southern extent 62.9° reached at 06 hr. Changes from quiet to active forms observed at College at 0439 and 0620. (Bw-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 3 ⁺ mostly Z&N	Aurora 3Z & S	Aurora 3	Aurora 2 in NZ	Aurora 2 Z & S	Aurora 1Z
H α , β	No H	3 in S	1 in Z	1 in Z	-	-
6300/5577	-	>>1 in Z	~1 in <u>SZ</u>	<1	-	-

22 December 1957 U.T. (1) Aurora visible overhead at 68.5° during 08-12 hrs. Apparent southern extent 67.2° reached during 09 hr. Changes from quiet to active forms observed at Barrow at 0843 and (1040). (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 0 ⁺ Z & S	Aurora 0 ⁺ in N	Aurora 2 in N	Aurora 2 in N	Aurora 1 in N	Aurora 0 ⁺ in N
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

23 December 1957 U.T. (2) Aurora visible overhead at 65.8° during 15 hr.
Aurora extended south of 66.1° during 10 and 13 hrs. Changes from quiet to active forms observed at Bettles at 0910 and 1330. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	No 3914	O^+ in N	3 in N	2 in N	1 in N	2 in N
$H_{\alpha, \beta}$	-	-	-	1 in N	1 in N	2 in N
6300/5577	>>1 in N & S	-	-	-	-	-

24 December 1957 U.T. (1) Aurora visible overhead at 65.8° during 10-12 and 14 hrs. Aurora extended south of 63.1° during 10 hr. Changes from quiet to active forms observed at Bettles at 1112 and 1220. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	O^+	O^+	O^+	1^+ NZ + N	3Z & N	2Z & N
$H_{\alpha, \beta}$	-	-	-	2 in N	3 in N	2 in N
6300/5577	>>1	>>1	~1	~1	<1	~1

25 December 1957 U.T. (3) Aurora visible overhead at 65.8° during 06-08 and 12-13 hrs. Apparent southern extent 62.9° reached during 13 hr. Changes from quiet to active forms observed at Bettles at 0850 and 1331. (Bt-Fw-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1N & S	Aurora 4 NZ & N	Aurora 2Z to N	Aurora 1NZ	Aurora 3 SZ	Aurora 3 Z to S
$H_{\alpha, \beta}$	-	3 in SZ	1Z to N	-	3 NZ	-
6300/5577	>>1	~1	<1	<1	~1	<<1

26 December 1957 U.T. (8) Aurora visible overhead at 65.8° during 05-06, 09-10, and 13-14 hrs. Visible overhead at 61.4° during 09-10 and 13-14 hrs. Aurora extended south of 59.9° during 09 and 14 hrs. Changes from quiet to active forms observed at Bettles at 0700, 0940, and 1345. (Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1 in N	2N & Z & S	3 mostly Z & S	4 N & Z & S	3 mostly SZ	3 ⁺ mostly SZ
H $_{\alpha,\beta}$	-	2N & Z & S	3 ⁺ SZ	2 SZ	2Z to N	1 SZ
6300/5577	>>1	~ 1 to >1	<1 to ~1	<1	<1	<1 to ~1

27 December 1957 U.T. (0) Aurora visible overhead at 65.8° during 14 hr. Apparent southern extent 64.1° reached during 14 hr. Change from quiet to active forms possibly observed in far north at Bettles at (0829). (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 1	Aurora 1	Aurora 1	Aurora 3	Aurora 1
H $_{\alpha,\beta}$	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

28 December 1957 U.T. (0) Barrow, camera trouble. Bettles, partly cloudy and no aurora. College, cloudy. Farewell, no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 1	Aurora 1	Aurora 1	Aurora 1	Aurora 1
H $_{\alpha,\beta}$	-	-	-	-	-	-
6300/5577	-	-	-	~ 1 in N	<1	~ 1 in N

29 December 1957 U.T. (2) Aurora visible overhead at 65.8° during 10-11 hrs. Apparent southern extent 65.1° reached during 11 hr. Change from quiet to active forms observed at Bettles at 1030. (Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 1	Aurora 1	Aurora 1	Aurora 2 ⁺	Aurora 2
H α, β	-	-	-	-	1	-
6300/5577	-	-	-	-	-	-

30 December 1957 U.T. (4) Aurora visible overhead at 65.8° during 06-11 and 13-14 hrs. Visible overhead at 61.4° during 06-14 hrs. Aurora extended south of 59.9° during 09 hr. Changes from quiet to active forms observed at Bettles at 1145 and 1232. (Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1 <u>mostly</u> <u>S, Z, N.</u>	3 <u>N & S & Z</u>	3 <u>Z to S</u>	4 <u>Z to S</u>	3 <u>Z to S</u>	4 <u>Z to S</u>
H α, β	-	3 <u>mostly SZ</u>	3 <u>Z to S</u>	4 <u>mostly</u> <u>SZ</u>	4 <u>mostly</u> <u>S</u>	3 <u>mostly</u> <u>S</u>
6300/5577	-	>1	>1	>1	>1	<1

31 December 1957 U.T. (0) Aurora visible overhead at 65.8° during 06-11 and 13 hrs. Aurora extended south of 64.3° during 07 and 13 hrs. Changes from quiet to active forms observed at Bettles at 0707, 0857, and 1335. (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 2	Aurora 3	Aurora 4	Aurora 3	Aurora 2 ⁺	Aurora 4
H α, β	-	-	-	-	-	-
6300/5577	-	-	-	>1 <u>in S</u>	>1 <u>in S</u>	>1 <u>in S</u>

1 January 1958 U.T. (2) Aurora visible overhead at 65.8° during 04-09 hrs. Visible overhead at 61.4° during 06 hr. Apparent southern extent 60.9° reached during 06 hr. Changes from quiet to active forms observed at Bettles at 0555, 0823, and (1430). (Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 2 mostly Z	Aurora 3	Aurora 2	Aurora 2 ⁺ in S	Aurora 2 ⁺ 2 to S	Aurora 2 ⁺ SZ
H $_{\alpha}$, β	-	-	-	-	3 in SZ	2 SZ
6300/5577	>>12 to S	~1N to S	>1N to S	>1N to S	~12 to S	>12 to S

2 January 1958 U.T. (0) Aurora visible overhead at 65.8° during 08 hr. Aurora extended south of 64.3° during 08 hr. Change from quiet to active forms observed at Bettles at 0828. (Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 2	Aurora 2	Aurora 2	Aurora 3 in S	Aurora 4	Aurora 3
H $_{\alpha}$, β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

3 January 1958 U.T. (0) Aurora visible overhead at 65.8° during 10-11 hrs. Aurora extended south of 64.1° during 10 hr. Change from quiet to active forms observed at Bettles at 1050. No spectrograph scalings. (Bt-Co)

4 January 1958 U.T. (0) Barrow, Bettles, College, and Farewell, camera trouble. No spectrograph scalings.

5 January 1958 U.T. (0) Barrow, College, and Farewell, camera trouble. Bettles, cloudy. No spectrograph scalings.

6 January 1958 U.T. (0) Barrow, College, and Farewell, camera trouble.

Bettles, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	-	Aurora 2	Aurora 2	Aurora 2
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

7 January 1958 U.T. (0) Barrow and College, camera trouble. Bettles and Farewell, cloudy.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1 mostly Z	Aurora 1	Aurora 1 N	Aurora 1 N	Aurora 2 N	Aurora 2 N
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	-	-	-

8 January 1958 U.T. (0) Barrow and Bettles, camera trouble. College and Farewell, cloudy. No spectrograph scalings.

9 January 1958 U.T. (0) Barrow, camera trouble. Bettles, College, Farewell, cloudy. No spectrograph scalings.

10 January 1958 U.T. (1) Aurora visible overhead at 68.5^o during 06-12 hrs. Apparent southern extent 65.1^o reached during 10 hr. Changes from quiet to active forms observed at Barrow at (0730), 0912, and 1138. No spectrograph scalings. (Bw-Co)

11 January 1958 U.T. (1) Aurora visible overhead at 68.5° during 10 hr. Visible overhead at 65.8° during 09-10 hrs. Apparent southern extent 61.9° reached during 10 hr. Change from quiet to active forms observed at Bettles at 0948. No spectrograph scalings. (Bw-Bt-Fw)

12 January 1958 U.T. (12) Aurora visible overhead at 68.5° during 07 and 11 hrs. Visible overhead at 65.8° during 05-11 and 14 hrs. Apparent southern extent 62.9° reached during 14 hr. Changes from quiet to active forms observed at Bettles at 0611, 0836, 1131, and 1423. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>3Z to S</u>	<u>4N to S</u>	-	-
H α , β	-	-	Aurora	<u>4 mostly SZ</u>	-	-
6300/5577	-	-	-	<u>>1 in SZ</u>	-	-

13 January 1958 U.T. (6) Aurora visible overhead at 65.8° during 07-12 and 14 hrs. Apparent southern extent 63.1° reached during 10 hr. Changes from quiet to active forms observed at Bettles at 1030 and 1211. (Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N & S</u>	<u>2N</u>	<u>3Z to N</u>	<u>3⁺ Z to N</u>	<u>4⁻ Z to N</u>	<u>2 mostly NZ</u>
H α , β	3 N	-	<u>4 Z</u>	<u>4 SZ</u>	<u>3Z to N</u>	<u>2 N</u>
6300/5577	<u>>1N & S</u>	<u>~1N</u>	<u><1</u>	<u><<1</u>	<u>< 1</u>	<u><<1</u>

14 January 1958 U.T. (6) Aurora visible overhead at 68.5° during 07-11 and 13-15 hrs. Visible overhead at 65.8° during 07-09 and 11-13 hrs. Aurora extended south of 63.1° during 10 and 12 hr. Changes from quiet to active forms observed at Bettles at 0830 and 1245. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1Z to N</u>	<u>1N to S</u>	<u>4N to S</u>	<u>3Z to S</u>	<u>4 mostly Z</u>	<u>3 mostly SZ</u>
H $_{\alpha}, \beta$	-	<u>2Z to N</u>	<u>3 mostly Z</u>	<u>3 mostly Z</u>	<u>3 mostly Z</u>	-
6300/5577	-	-	<u>Z</u>	<u>Z</u>	<u>Z</u>	-

15 January 1958 U.T. (3) Aurora visible overhead at 68.5° during 04-09 and 14 hrs. Visible overhead at 65.8° during 06-12 hrs. Apparent southern extent 63.1° reached at 10 and 14 hrs. Changes from quiet to active forms observed at Bettles at 1110 and 1230. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N, Z, S</u>	<u>2 NZ</u>	<u>4 NZS</u>	<u>3 Z to S</u>	<u>4 mostly Z</u>	<u>3 mostly Z</u>
H $_{\alpha}, \beta$	-	<u>2 Z to N</u>	<u>3 mostly Z</u>	<u>3 mostly Z</u>	<u>3 mostly Z</u>	-
6300/5577	-	-	-	-	-	-

16 January 1958 U.T. (0) Aurora visible overhead at 68.5° during 06-08, 10-12, and 14 hrs. Aurora extended south of 66.3° during 13 hr. Changes from quiet to active forms observed at Barrow at 0605, 1017, and 1417. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 2	Aurora 3	Aurora 3	Aurora 1 ⁺	Aurora 2 ⁺
H $_{\alpha}, \beta$	-	3	3	2	2 ⁺	2
6300/5577	-	-	-	-	-	-

17 January 1958 U. T. (0) Aurora visible overhead at 68.5° during 08 and 14 hrs. Visible overhead at 65.8° during 08-12 hrs. Aurora extended south of 64.1° during 08, 11, and 14 hrs. Changes from quiet to active forms observed at Bettles at 0848 and 1235. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1	Aurora 1 ⁺	Aurora 2 ⁺	Aurora 3 ⁺	Aurora 3	Aurora 2 ⁺
H _{α,β}	-	-	2	3	2	2
6300/5577	-	-	-	-	-	-

18 January 1958 U.T. (1) Aurora visible overhead at 68.5° during 13 hr. Visible overhead at 65.8° during 11-14 hrs. Aurora extended south of 64.3° during 11 and 13 hrs. Changes from quiet to active forms observed at Bettles at 1243 and 1419. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 2 in N	Aurora 1 ⁺ mostly NZ	Aurora 2 ⁺	Aurora 3 ⁺	Aurora 2	Aurora 2
H _{α,β}	-	1 ⁺ mostly NZ	2 SZ	2	2	-
6300/5577	>> 1 in N	> 1 in NZ	~12 to S	-	-	-

19 January 1958 U.T. (6) Aurora visible overhead at 68.5° during 06 hr. Visible overhead at 65.8° during 11-13 hrs. Apparent southern extent 63.1° reached during 11 hr.. Changes from quiet to active forms observed at Bettles at 1134 and 1313. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	Aurora 1 ⁻	Aurora 1 ⁻	Aurora 2 SZ	Aurora 3 ⁺ NZ & SZ	Aurora 4 SZ	Aurora 4 ⁻ SZ
H _{α,β}	-	1	2 SZ	2 SZ	1	-
6300/5577	-	-	-	-	-	-

20 January 1958 U.T. (6) Aurora visible overhead at 68.5° during 06-11 and 14-15 hrs. Visible overhead at 65.8° during 07 and 14 hrs. Visible overhead at 61.4° during 11 hr. Apparent southern extent 60.9° reached during 11 hr. Changes from quiet to active forms observed at Bettles at 0737 and 1450. No spectrograph scalings. (Bw-Bt-Co-Fw)

21 January 1958 U.T. (6) Aurora visible overhead at 68.5° during 08-09 hrs. Visible overhead at 65.8° during 07-09 hrs. Apparent southern extent 61.9° reached during 09 hr. Changes from quiet to active forms observed at Bettles at 0707 and 0916. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$2N_Z$ to S_Z	$3S$ to N_Z	$3S$ to N_Z	$4S$ to N_Z	$3S$	$2S$ to N
$H_{\alpha, \beta}$	$1N_Z$ to S_Z	$3S_Z$	$3S$ to S_Z	$4S$ to N_Z	$4S$	$3S$
6300/5577	$\gg 1S_Z$ & N_Z	$> 1N_Z$	$1N_Z, S_Z$	< 1	< 1	< 1

22 January 1958 U.T. (9) Aurora visible overhead at 65.8° during 07-08, 10-11, and 13-15 hrs. Visible overhead at 61.4° during 14 hr. Apparent southern extent 60.9° reached during 14 hr. Changes from quiet to active forms observed at Bettles at 0718, 1030, and 1431. (Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$2N$ to S	$1N$	$4N$ to S	$2S_Z$ to N	4^+N to S	4^+N to S
$H_{\alpha, \beta}$	-	-	$3S_Z$	$3N_Z$ to N	$3 S_Z$	-
6300/5577	$1N$ to S	< 1	< 1	< 1	< 1	< 1

23 January 1958 U.T. (10) Aurora visible overhead at 68.5° during 09-10, 12, and 14-17 hrs. Visible overhead at 65.8° during 06-12 and 14-15 hrs. Apparent southern extent 62.9° reached during 13 hr. Changes from quiet to active forms observed at Bettles at 0720, 0942, 1230, and 1518. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1 <u>NZS</u>	2 <u>N</u>	3 <u>N_Z</u> to S	3 <u>N_Z</u>	3 <u>N_Z</u> to S	3 <u>NZS</u>
H α , β	-	2 <u>NZS</u>	3 <u>S</u>	2 <u>S</u>	-	-
6300/5577	<1	<1	<1	<1	1 <u>NZS</u>	<1

24 January 1958 U.T. (4) Aurora visible overhead at 68.5° during 10-11 and 14-15 hrs. Visible overhead at 65.8° during 10-13 hrs. Apparent southern extent 63.1° reached during 13 hr. Change from quiet to active forms observed at Bettles at 1127. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2 <u>NZS</u>	1 <u>N</u>	1 <u>N</u> to <u>NZ</u>	2 <u>NZS</u>	4 <u>N_Z</u> to S	4 <u>N_Z</u> to S
H α , β	-	1 <u>N</u>	0 + <u>N</u>	-	3 <u>N_Z</u> to S	0 + <u>N_Z</u> + <u>S_Z</u>
6300/5577	> 1 <u>N_Z</u> to S	1 <u>NZS</u>	<1	<1	1 <u>N_Z</u> to S	<1

25 January 1958 U.T. (9) Aurora visible overhead at 68.5° during 05-09 and 13-15 hrs. Visible overhead at 65.8° during 08, 10, and 12-14 hrs. Aurora extended south of 59.9° during 13 hr. Changes from quiet to active forms observed at Bettles at 0900 and 1338. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	1 <u>N</u> to <u>N_Z</u>	2 <u>N</u> to <u>N_Z</u>	4 <u>N_Z</u> to S	2 <u>N_Z</u> to S	4 <u>N_Z</u> to S
H α , β	-	1 <u>N_Z</u>	1 <u>N</u> to <u>N_Z</u>	-	-	4 <u>NZS</u>
6300/5577	-	<1	<1	<1	<1	1 <u>S</u>

26 January 1958 U.T. (10) Aurora visible overhead at 65.8° during 04-10 hrs. Apparent southern extent 63.1° reached during 06 hr. Changes from quiet to active forms observed at Bettles at 0437 and 0921. (Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$4N_Z$ to S	$4N_Z$ to S_Z	$4N_Z$ to S_Z	$3N_Z$ to S_Z	$2N_Z$
H_{α}, β	-	$3N_Z$ to S	2S to S_Z	3S to S_Z	$3N_Z$ to S_Z	2N to N_Z
6300/5577	-	$1N_Z$	$1N_Z, S_Z$	<1	1N to S	<1

27 January 1958 U.T. (2) Aurora visible overhead at 68.5° during 08-09, 14, and 17 hrs. Apparent southern extent 67.0° reached during 08 and 15 hrs. Changes from quiet to active forms observed at Barrow at 0835, (1635) and 1706.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	1S & S_Z	1N to S	2N	1N	0 + N
H_{α}, β	-	-	1N	2N to S_Z	1N	1N
6300/5577	-	<1	<1	<1	<1	<1

28 January 1958 U.T. (6) Aurora visible overhead at 65.8° during 08, and 10-13 hrs. Visible overhead at 61.4° during 09 hr. Apparent southern extent 60.9° reached during 09 hr. Changes from quiet to active forms observed at Bettles at 0831, 1119, (1209), and 1313.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2N to S	1N to S	$2N_Z$ to S	$3N_Z$ to S	$2N_Z$ to S_Z	1+N to N
H_{α}, β	$3N$ to S_Z	-	$2N_Z$ to S	$2N_Z$ to S	-	-
6300/5577	>1N to S	1N to S	1	1	<1	1N

29 January 1958 U.T. (6) Aurora visible overhead at 68.5° during 04-06, 09, and 15 hrs. Visible overhead at 65.8° during 09-10 and 12-13 hrs. Aurora extended south of 64.3° during 10, 12, and 14 hrs. Changes from quiet to active forms observed at Bettles at 0925, 1021, and 1255. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$2N$ to S	$3N_Z$ to S_Z	$3N_Z$ to S	$4N_Z$ to S_Z	$2S_Z$	$2S_Z$
$H_{\alpha,\beta}$	$3N_Z$	$4N$ to S	$4S$	$3N_Z$ to S	$3S_Z$	$2S_Z$
6300/5577	$>1N$ to S	$1N$ to S	$1N$ to S	$1N_Z$ to S_Z	<1	$1S_Z$

30 January 1958 U.T. (0) Aurora visible overhead at 68.5° during 08-09 and 11-13 hrs. Aurora extended south of 62.9° during 11 hr. Changes from quiet to active forms observed at Barrow at 0841 and 0945. (Bw-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$2N$ to S	$2N$ to S	$2N_Z$ to S	$3N_Z$ to S	$2N_Z$ to S
$H_{\alpha,\beta}$	-	$3N_Z$	$3N_Z$	$3N$ to S	$3N_Z$ to S	$1N_Z$
6300/5577	-	$1N$ to S	$1N$ to S	<1	$>1N_Z$	$1N$ to S

31 January 1958 U.T. (0) Aurora visible overhead at 68.5° during 09-11 and 15-16 hrs. Aurora extended south of 67.0° during 09, 11, and 16 hrs. Changes from quiet to active forms observed at Barrow at 0916, 1142, and 1640. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	$2N_Z$ to S	$2N_Z$ to S_Z	$1N_Z$ to S	$1N_Z$ to S
$H_{\alpha,\beta}$	-	-	-	-	-	-
6300/5577	-	-	<1	<1	<1	<1

1 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 07 and 10-12 hrs. Aurora extended south of 67.0° during 11 hr. Changes from quiet to active forms observed at Barrow at 0750, 1005, and 1201. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>1N to S</u>	<u>2N_Z to S</u>	<u>2N_Z to S</u>	<u>2N_Z to S_Z</u>
H _α , β	-	-	-	-	-	-
6300/5577	-	-	-	<u>1N to S</u>	<u>1N to S</u>	<u>1N</u>

2 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 09-11 hrs. Aurora extended south of 67.0° during 10 hr. Changes from quiet to active forms observed at Barrow at 0905, 1037 and (1125). No spectrograph scalings. (Bw)

3 February 1958 U.T. (0) Barrow and Bettles, Cloudy. Ft. Yukon, camera trouble. College, cloudy. Farewell, partly cloudy, and no aurora. No spectrograph scalings.

4 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 11 and 14 hrs. Aurora extended south of 67.0° during 10 hr. Changes from quiet to active forms observed at Barrow at 1120 and 1450. No spectrograph scalings. (Bw)

5 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 06-08, 11, and 13 hrs. Visible overhead at 65.8° during 07 and 11 hrs. Aurora extended south of 64.3° during 07 hr. Changes from quiet to active forms observed at Bettles at 0731 and 1120. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N_Z to S</u>	<u>2N_Z to S_Z</u>	<u>2N to S</u>	<u>2N to S</u>
H _α , β	-	<u>2N to S</u>	-	-	-	-
6300/5577	-	<u>1N</u>	<u>1N_Z to S_Z</u>	<u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>

6 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 04-09 hrs. Visible overhead at 65.8° during 04, 06-08, 14-15 and 18 hrs. Aurora extended south of 59.9° during 11 hr. Changes from quiet to active forms observed at Bettles at 0825 and 1104. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N</u>	<u>2N_Z, S</u>	<u>3N_Z, S</u>	<u>3N_Z, Z, S</u>	<u>3N_Z, S</u>	<u>3N_Z, S</u>
H α , β	-	<u>4N_Z to S</u>	<u>3N_Z to S_Z</u>	-	-	-
6300/5577	<u>1N_Z, S</u>	< 1	<u>1N</u>	<u>1N_Z to S</u>	< 1	< <u>1N_Z, S</u>

7 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 09, 12-13, and 15-17 hrs. Visible overhead at 65.8° during 08-09 and 14 hrs. Visible overhead at 61.4° during 12 hr. Apparent southern extent 60.9° reached during 12 hr. Changes from quiet to active forms observed at Bettles at 0802 and 1410. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N</u>	<u>2N_Z</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N_Z to S</u>
H α , β	-	-	<u>3S_Z to S</u>	<u>3S_Z to S</u>	<u>3S_Z to S</u>	-
6300/5577	-	<u>1N</u>	<u>1N_Z</u>	<u>1N to S</u>	<u>1N to S</u>	< 1

8 February 1958 U.T. (10) Aurora visible overhead at 68.5° during 05-07 hrs. Visible overhead at 65.8° during 05-09 and 11-13 hrs. Visible overhead at 61.4° during 09-10, 13, and 15 hrs. Aurora extended south of 59.9° during 09 hr. Changes from quiet to active forms observed at Bettles at (0702), 0924, and 1400. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N to N_Z</u>	<u>2N</u>	<u>3N_Z to S</u>	<u>2N_Z, S</u>	<u>3N_Z to S</u>
H α , β	-	-	-	<u>3N</u>	<u>3N</u>	<u>3N</u>
6300/5577	-	< 1	<u>1N</u>	<u>1N_Z, S</u>	<u>1N_Z, S</u>	<u>1N & S</u>

9 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 10-11 and 15-16 hrs. Visible overhead at 65.8° during 14-15 hrs. Apparent southern extent 64.5° reached during 10 and 14 hrs. Change from quiet to active forms observed at Bettles at 1044. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	0+	$1N$ to N_Z	$2N_Z$ to S_Z	$3N_Z, S$	$2N_Z$
$H_{\alpha, \beta}$	-	-	-	$3S_Z$	-	-
6300/5577	-	$1N_Z, S$	<1	<1	$1N$	<1

10 February 1958 U.T. (9) Aurora visible overhead at 68.5° during 04-05 and 09-16 hrs. Visible overhead at 65.8° during 09-16 hrs. Apparent southern extent 63.1° reached during 12 hr. Changes from quiet to active forms observed at Bettles at 1039, (1258) and 1545. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$1N_Z, S$	0 + N	$1N$ to N_Z	$2N_Z$ to S_Z	$3N_Z$ to S_Z
$H_{\alpha, \beta}$	-	-	-	-	$4N_Z$ to S_Z	$4N_Z$ to S_Z
6399/5577	-	$1N_Z, S$	$1N$	<1	<1	<1

11 February 1958 U.T. (17) Aurora visible overhead at 68.5° during 04 and 10-13 hrs. Visible overhead at 65.8° during 05, 07, and 11-15 hrs. Visible overhead at 61.4° during 08 hr. Aurora extended south of 59.9° during 08 hr. Changes from quiet to active forms observed at Bettles at 0727, 1039 and 1317. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	$4^+N, Z, \& S$	$4S$	$4Z \& S$	$4N \& Z \& S$	$4Z$ to S	$4Z$ to S
$H_{\alpha, \beta}$	$4N_Z, S$	$2S$	-	-	-	-
6300/5577	>>1	>>1	>>1	~1	>>1	>1

12 February 1958 U.T. (12) Aurora visible overhead at 68.5° during 05-11 hrs. Visible overhead at 65.8° during 06-16 hrs. Visible overhead at 61.4° during 10 hr. Apparent southern extent 60.9° reached during 10 hr. Changes from quiet to active forms observed at Bettles at 0654, 0750, 1013, and (1325).

Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N,Z,S</u>	4 mostly N	<u>4N,Z, & S</u>	<u>3Z to S</u>	<u>3Z</u>	<u>2Z</u>
H α , β	-	<u>3N,Z,S</u>	<u>1SZ</u>	<u>2 in S</u>	-	-
6300/5577	-	<1	<u>~1 in S</u> to <1	<u>~1 in S</u> to <1	<1	<1

13 February 1958 U.T.(9) Aurora visible overhead at 68.5° during 07-12 and 16 hrs. Visible overhead at 65.8° during 08 and 10-15 hrs. Apparent southern extent 63.1° reached during 08 and 11 hrs. Changes from quiet to active forms observed at Bettles at 0939 and 1205. Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>1N,Z,S</u>	<u>1N,Z,S</u>	<u>2N,Z,S</u>	<u>3Z</u>	<u>4N,Z,S</u>	<u>3N,Z,S</u>
H α , β	-	-	<u>2NZ</u>	-	-	-
6300/5577	-	-	<1	<1	<1	<1

14 February 1958 U.T. (11) Aurora visible overhead at 68.5° during 04-12 and 14 hrs. Visible overhead at 65.8° during 04, 06-10, 12 and 14 hrs. Visible overhead at 61.4° during 11-14 hrs. Aurora extended south of 59.9° during 11 hr. Changes from quiet to active forms observed at Bettles at 0806, 0905, and 1113. (Bw-Fy-Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>2N to S</u>	<u>3N_Z to S_Z</u>	<u>3N_Z to S</u>	<u>3N_Z to S_Z</u>	<u>3S_Z</u>
H α , β	-	<u>3N_Z to S</u>	<u>3S_Z to S</u>	<u>3S</u>	-	<u>4S</u>
6300/5577	<u>1N to S</u>	<1	<1	<1	<u>1N to S</u>	<1

15 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 10 hr. Visible overhead at 65.8° during 10 and 13-14 hrs. Aurora extended south of 64.3° during 10 hr. Changes from quiet to active forms observed at Bettles at 1001 and 1332. (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$0 + \underline{N_Z}$	$0 + \underline{N_Z}$ to S	$3\underline{N}$ to S	$3\underline{N}$ to S	$3\underline{N_Z}$ to S_Z
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	<1	<1	<1	<1	<1

16 February 1958 U.T. (2) Aurora visible overhead at 68.5° during 09-14 hrs. Visible overhead at 65.8° during 08-10 hrs. Apparent southern extent 62.9° reached during 13 hr. Changes from quiet to active forms observed at Bettles at 1015, (1137), and 1235. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$0 + \underline{N \&S}$	$0 + \underline{N}$	$3\underline{N_Z}$	$3\underline{N_Z}$ to S	$3\underline{N}$ to S
$H_{\alpha, \beta}$	-	-	$1\underline{N}$	$4\underline{N_Z}$	$4\underline{N_Z}$ to S	-
6300/5577	-	>1	>1	$1\underline{N}$ to S	$1\underline{N}$ to S	$1\underline{N}$ to S

17 February 1958 U.T. (4) Aurora visible overhead at 68.5° during 04-05, 07-13, and 15 hrs. Visible overhead at 65.8° during 05-12 and 14 hrs. Visible overhead at 61.4° during 08 and 10-15 hrs. Apparent southern extent 60.9° reached during 08 and 10 hrs. Changes from quiet to active forms observed at Bettles at 0510, 0747, 1033, and 1218. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$3\underline{N_Z}$ to S_Z	$3\underline{N_Z}$ to S_Z	$4\underline{N}$ to S	$4\underline{N_Z}$ to S	$4\underline{N}$ to S
$H_{\alpha, \beta}$	-	$2\underline{N}$ to S	$4\underline{N}$	$4\underline{N}$	$4\underline{N}$	$4 + \underline{N}$ to S
6300/5577	-	> $1\underline{N}$ to S	> $1\underline{N}$ to S	> $1\underline{N}$ to S	> $1\underline{N}$	> $1\underline{N}$

18 February 1958 U.T. (7) Aurora visible overhead at 68.5° during 05-12 and 15 hrs. Visible overhead at 65.8° during 04-14 hrs. Visible overhead at 61.4° during 08 and 10-15 hrs. Aurora extended south of 59.9° during 09 hr. Changes from quiet to active forms observed at Bettles at 0606, 0848, 0958, and 1236. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2N to S	2N to S	3N to S	4N to S	4N to S	3N to S
H α , β	-	-	3S	3S	3S _Z	-
6300/5577	>1	1N to S	1N to S	1N to S	1N	> 1

19 February 1958 U.T. (7) Aurora visible overhead at 68.5° during 04-13 and 16 hrs. Visible overhead at 65.8° during 06-11 and 14-15 hrs. Visible overhead at 61.4° during 12 hr. Aurora extended south of 59.9° during 12 hr. Changes from quiet to active forms observed at Bettles at 0848, 1018, and 1201. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2N to S	3N to S	3N to S	4N to S	4 + N to S	3N to S
H α , β	-	4S	4S & S _Z	4S _Z	-	-
6300/5577	1N & S	1N _Z	>1	>1	1N to S	> 1

20 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 05-12 and 14 hrs. Visible overhead at 65.8° during 05-09 and 11 hrs. Visible overhead at 61.4° during 13 hr. Aurora extended south of 59.9° during 13 hr. Changes from quiet to active forms observed at Bettles at 0949, 1038, and 1241.

(Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1N to S	2N to S	3N to S	3N _Z to S	4N _Z to S	4N to S
H α , β	1N to S	4N _Z to S	4N _Z to S	4N _Z to S	3N _Z	-
6300/5577	1N to S	1N to S	1N to S	1N to S	1N	1N to S

21 February 1958 U.T. (3) Aurora visible overhead at 68.5° during 04-06 and 08-10 hrs. Visible overhead at 65.8° during 04-07, 11, and 14-15 hrs. Aurora extended south of 59.9° during 07 hr. Changes from quiet to active forms observed at Bettles at 0648, 0754, and 1303. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	05-08	08-10	10-12	12-14	14-16
3914	-	$3N_Z$ to S_Z	$4N$ to S	$3N$ to S	$4N_Z$ to S	$4+N$ to S
H_{α}, β	-	$4N_Z$ to S	$4N$ to S	$4S$	$4N_Z$ to S	$3N_Z$ to S
6300/5577	-	$<1N$ to S	$1N$ to S	$1N$ to S	$1N$ to S	$1N$ to S

22 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 06-10 and 12-15 hrs. Visible overhead at 65.8° during 08-09 and 12-15 hrs. Visible overhead at 61.4° during 12-13 hrs. Apparent southern extent 60.9° reached during 12 hr. Changes from quiet to active forms observed at Bettles at 1030, 1258, and (1500). (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$2N$ to S	$3N$ to S	$4N$ to S	$4S_Z$	$4N$ to S
H_{α}, β	-	$4N_Z$ to S_Z	$3N$	$4N$ to S	$4S_Z$ to S	-
6300/5577	-	<1	<1	$1N$ to S	$1S$	$1N$ to S

23 February 1958 U.T. (6) Aurora visible overhead at 68.5° during 06-11 and 13 hrs. Visible overhead at 65.8° during 08 and 10-15 hrs. Visible overhead at 61.4° during 09 and 11 hrs. Aurora extended south of 59.9° during 11 hr. Changes from quiet to active forms observed at Bettles at 0930 and 1058.

(Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$2N$ to S	$3N$ to S	$4N$ to S	$4N$ to S	$3N$ to S
H_{α}, β	-	$3N$ to Z	$3N_Z$ to S	$4S_Z$ to S	$3S_Z$ to S	$3N_Z$ to S_Z
6300/5577	-	>1	>1	>1	>1	>1

24 February 1958 U.T. (5) Aurora visible overhead at 68.5° during 05-07 and 09-13 hrs. Visible overhead at 65.8° during 09-10 and 12-15 hrs. Visible overhead at 61.4° during 12-13 hrs. Aurora extended south of 59.9° during 12 hr. Changes from quiet to active forms observed at Bettles at 1045 and 1235. (Bw-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	2N to S	1N to S	2N	3N to S	4N to S	2N to S
H_{α}, β	-	1N	2N to S _Z	3S _Z	2N _Z to S _Z	1N
6300/5577	>1	>1	>1	>1	>1	>1

25 February 1958 U.T. (3) Aurora visible overhead at 68.5° during 05-09 hrs. Visible overhead at 65.8° during 08 and 10-12 hrs. Apparent southern extent 65.1° reached during 06, 08, and 10 hrs. Changes from quiet to active forms observed at Bettles at 0925 and (1200). (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1N to S	2N	3N to S _Z	3N _Z	1N to N _Z	1N to S
H_{α}, β	-	2N	3N _Z to S _Z	3N to N _Z	2N to N _Z	-
6300/5577	1N to S	<1	<1	<1	<1	

26 February 1958 U.T. (1) Aurora visible overhead at 65.8° during 09-13 hrs. Apparent southern extent 65.1° reached during 10 and 12 hrs. Changes from quiet to active forms observed at Bettles at 1051 and (1200). (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	1N to S	1N to N _Z	1N to N _Z	2N _Z	2N _Z	2N to S
H_{α}, β	-	2N to N _Z	2N to N _Z	3N to S _Z	2N _Z to S _Z	1N
6300/5577	1N to S	<1	<1	<1	<1	1N to S

27 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 11-14 hrs. Visible overhead at 65.8° during 11-13 hrs. Apparent southern extent 64.3° reached during 13 hr. Change from quiet to active forms observed at Bettles at 1327. (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>0 + N to S</u>	<u>1N & S</u>	<u>1N to N_Z</u>	<u>3N to S</u>	<u>2N to S</u>
H $_{\alpha,\beta}$	-	<u>1N</u>	<u>1N</u>	<u>1N</u>	-	-
6300/5577	<u>1N to S</u>	<u>1N to S</u>	< 1	< 1	<u>1N to S</u>	<u>1N to S</u>

28 February 1958 U.T. (0) Aurora visible overhead at 68.5° during 07-08 and 11 hrs. Visible overhead at 65.8° during 12-14 hrs. Apparent southern extent 61.9° reached during 11 hr. Change from quiet to active forms observed at Bettles at 1445. (Bw-Fy-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	<u>2N to S</u>	<u>2N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>4N to S</u>
H $_{\alpha,\beta}$	-	<u>3N to S</u>	<u>4N to S</u>	-	-	-
6300/5577	<u>1N to S</u>	<u>1N to S</u>	<u>1N</u>	< 1	< 1	< 1

1 March 1958 U.T. (0) Aurora visible overhead at 65.8° during 10-11 hrs. Visible overhead at 61.4° during 08-09 hrs. Aurora extended south of 59.9° during 08 and 12 hrs. Changes from quiet to active forms observed at Bettles at 1137 and (1304). (Fy-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N to S</u>	<u>1N to S</u>	<u>3N_Z</u>	<u>4N to S</u>	-
H $_{\alpha,\beta}$	-	-	<u>3N to S_Z</u>	<u>4N to S_Z</u>	<u>4N to S_Z</u>	-
6300/5577	-	<u>1N to S</u>	< 1	-	< 1	-

2 March 1958 U.T. (0) Aurora visible overhead at 68.5° during 12 hr. Aurora extended south of 67.0° during 06 hr. Change from quiet to active forms observed at Barrow at (1230). (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N to S</u>	<u>3N to S</u>	<u>2N to S</u>	<u>2N to S</u>
H_{α}, β	-	<u>3N to S_Z</u>	<u>3N to S_Z</u>	-	-	-
6300/5577	-	>1	<u>1N to S</u>	>1	>1	<u>1N to S</u>

3 March 1958 U.T. (0) Aurora visible overhead at 66.7° during 10-11 hrs. Aurora extended south of 66.2° during 10 hr. Change from quiet to active forms observed at Ft. Yukon at (1030). (Fy)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	-	<u>3N to S</u>	<u>3N_Z to S</u>	<u>3N_Z to S</u>
H_{α}, β	-	-	-	<u>3N to S</u>	-	-
6300/5577	-	-	-	> <u>1N to S</u>	> <u>1N to S</u>	> <u>1N to S</u>

4 March 1958 U.T. (0) Aurora visible overhead at 65.8° during 12 hr. Aurora extended south of 65.1° during 05 and 08 hrs. Change from quiet to active forms observed at Bettles at 1210. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>4N to S</u>	-	-	<u>4N to S</u>	<u>4N to S</u>
H_{α}, β	-	-	-	-	-	-
6300/5577	-	> <u>1N to S</u>	-	-	<u>1N to S</u>	<1

5 March 1958 U.T. (0) Barrow, partly cloudy and no aurora. Ft. Yukon and Bettles, partly cloudy to cloudy and no aurora. College and Farewell, camera trouble.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	-	<u>4N to S</u>	<u>3N to S</u>	<u>4N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	<u>1N to S</u>	<u>>1N to S</u>	<u>>1N to S</u>

6 March 1958 U.T. (0) Aurora visible overhead at 68.5° during 06-07 hrs. Visible overhead at 65.8° during 06 and 10 hrs. Aurora extended south of 64.3° during 06 hr.. Changes from quiet to active forms observed at Bettles at 0600 and 1052. (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>3N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>4N to S</u>	<u>3N to S</u>
H α , β	-	-	-	-	-	-
6300/5577	-	<1	<u>1N to S</u>	<u>1N to S</u>	<1	<u>1N to S</u>

7 March 1958 U.T. (1) Aurora visible overhead at 68.5° during 06-08 hrs. Visible overhead at 65.8° during 06, 08-09, and 12-14 hrs. Aurora extended south of 64.1° during 06, 12, and 14 hrs. Changes from quiet to active forms observed at Bettles at 0604 and 1205. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>3N to S</u>	<u>4N to S</u>	<u>4N to S</u>	<u>3N to S</u>	<u>4N to S</u>
H α , β	-	<u>4N to S</u>	-	-	-	-
6300/5577	-	<u>>1N to S</u>	<1	<u>1N to S</u>	<u>1N to S</u>	<u>1N to S</u>

8 March 1958 U.T. (5) Aurora visible overhead at 68.5° during 06-09 and 11-13 hrs. Visible overhead at 65.8° during 05-10 hrs. Visible overhead at 61.4° during 09 hr. Apparent southern extent 60.9° reached during 09 hr. Changes from quiet to active forms observed at Bettles at 0558, 0759, and 0930. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>3N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>3N to S</u>	<u>3N to S</u>
H_{α}, β	-	-	-	<u>2S_Z to S</u>	<u>1S_Z to S</u>	-
6300/5577	-	<u>1N to S</u>	<1	<1	<u>1N to S</u>	<1

9 March 1958 U.T. (3) Aurora visible overhead at 68.5° during 06-07, 10-12, and 14-15 hrs. Visible overhead at 61.4° during 10-14 hrs. Aurora extended south of 59.9° during 10 hr.. Changes from quiet to active forms observed at College at 0923, 1024, and 1450. (Bw-Fy-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>3N to S</u>	<u>3N_Z to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>	<u>3N_Z</u>
H_{α}, β	-	<u>2N_Z to S</u>	<u>3S_Z to S</u>	-	<u>3N_Z to S</u>	<u>3N_Z to S</u>
6300/5577	-	<u>>1N to S</u>	<u>1N to S</u>	<1	<1	<1

10 March 1958 U.T. (1) Aurora visible overhead at 68.5° during 06-08 and 10-13 hrs. Visible overhead at 64.6° during 11-13 hrs. Aurora extended south of 63.1° during 11 hr.. Change from quiet to active forms observed at College at 1254. (Bw-Fy-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>	<u>4N_Z to S_Z</u>
H_{α}, β	-	-	-	-	<u>3N_Z to S</u>	-
6300/5577	-	<u>1N to S</u>	<1	<1	<u>1N to S</u>	<1

11 March 1958 U.T. (4) Aurora visible overhead at 68.5° during 11-13 hrs. Visible overhead at 64.6° during 11-14 hrs. Aurora extended south of 63.1° during 12 hr. Change from quiet to active forms observed at College at 1210. (Bw-Fy-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N to S</u>	<u>0+N & S</u>	<u>0+N to N_Z & S</u>	<u>3N to S</u>	<u>4N_Z to S_Z</u>
H _{α,β}	-	-	-	<u>2N to N_Z</u>	<u>4N to S</u>	<u>3N_Z to S_Z</u>
6300/5577	-	<u>1N to S</u>	<1	<1	<u>1N to S</u>	<1

12 March 1958 U.T. (0) Aurora visible overhead at 66.7° during 05-06 hrs. Visible overhead at 61.4° during 13-14 hrs. Aurora extended south of 59.9° during 14 hr. Change from quiet to active forms observed at Ft. Yukon at 0536. (Fy-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>4N_Z to S_Z</u>	<u>2N_Z to S_Z</u>	<u>4N_Z to S</u>	<u>3N_Z to S_Z</u>	-
H _{α,β}	-	-	-	<u>3N_Z to S</u>	-	-
6300/5577	-	<u>1N_Z to S_Z</u>	<u>>1S_Z & S</u>	<1	<1	-

13 March 1958 U.T. (1) Aurora visible overhead at 61.4° during 06-10 and 12-16 hrs. Visible overhead at 66.7° during 10-14 hrs. Aurora extended south of 59.9° during 06 hr. Changes from quiet to active forms observed at Ft. Yukon at 0757, 0950 and 1320. (Bw-Fy-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>4N_Z to S_Z</u>	<u>4N_Z to S</u>	<u>4N_Z to S</u>	<u>4S_Z & S</u>	<u>4N_Z to S_Z</u>
H _{α,β}	-	-	-	<u>1S_Z & S</u>	<u>4N_Z to S</u>	-
6300/5577	-	<u>1N & S</u>	<1	<1	<u>1S</u>	<u>>1S</u>

14 March 1958 U.T. (4) Aurora visible overhead at 66.7° during 09-13 hrs. Aurora extended south of 65.2° during 11 hr. Change from quiet to active forms observed at Ft. Yukon at (0930). (Fy)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>0 + N_z & S</u>	<u>2N to N_z</u>	<u>3N to S</u>	<u>4N to S</u>
H _{α,β}	-	-	-	<u>2N_z</u>	<u>3N_z & N</u>	<u>4N to S</u>
6300/5577	-	> <u>1N to S</u>	<1	<1	<1	> <u>1N_z to S_z</u>

15 March 1958 U.T. (3) Aurora visible overhead at 68.5° during 08-13 hrs. Visible overhead 64.6° during 08 and 10-13 hrs. Apparent southern extent 62.9° reached during 08 and 14 hrs. Changes from quiet to active forms observed at College at 0858, 1050, and 1310. (Bw-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>3N_z to S</u>	<u>3N_z to S</u>	<u>4N to S</u>	<u>4N to S</u>
H _{α,β}	-	<u>3N_z to S</u>	<u>2N_z to S</u>	-	<u>1N_z to S_z</u>	-
6300/5577	-	> <u>1N to S</u>	> <u>1N to S</u>	> <u>1N to S</u>	<u>1N</u>	<u>1N to S</u>

16 March 1958 U.T. (1) Aurora visible overhead at 68.5° during 07-09 and 12 hrs. Aurora extended south of 67.0° during 07 hr. Changes from quiet to active forms observed at Barrow at 0821 and 1230. (Bw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N_z to S_z</u>	<u>2N_z</u>	<u>3N to N_z</u>	-
H _{α,β}	-	<u>3S_z to S</u>	<u>2S_z & S</u>	<u>1N_z to S_z</u>	<u>1 + N</u>	-
6300/5577	-	<1	<1	<1	<1	-

17 March 1958 U.T. (5) Aurora visible overhead at 68.5° during 08-09 and 12-13 hrs. Visible overhead at 64.6° during 08-09 and 11 hrs. Visible overhead at 61.4° during 08 and 11 hrs. Aurora extended south of 59.9° during 08 and 11 hrs. Changes from quiet to active forms observed at College at 0804 and 1140. (Bw-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$2N_{\underline{Z}}$ to S	$3N_{\underline{Z}}$ to S	$4N$ to S	$4S_{\underline{Z}}$ to S	$4N$ to S
$H_{\alpha,\beta}$	-	$1N_{\underline{Z}}$	-	$1N_{\underline{Z}}$ to S	$4N$ to S	$1S_{\underline{Z}}$ to S
6300/5577	-	$>1N$ to S	<1	<1	$>1S$	$1N$ to S

18 March 1958 U.T. (2) Aurora visible overhead at 68.5° during 07, 09-11, and 13 hrs. Aurora visible overhead at 64.6° during 06-07 and 09 hrs. Visible overhead at 61.4° during 12 hr. Aurora extended south of 59.9° during 12 hr. Changes from quiet to active forms observed at College at 0620 and 0940. (Bw-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$3N_{\underline{Z}}$ to $S_{\underline{Z}}$	$3N$ to S	$3N_{\underline{Z}}$ to S	$3N_{\underline{Z}}$ to S	-
$H_{\alpha,\beta}$	-	$3N_{\underline{Z}}$ to S	$2N_{\underline{Z}}$ to S	-	$1S_{\underline{Z}}$ to S	-
6300/5577	-	$>1N_{\underline{Z}}$ & $S_{\underline{Z}}$	<1	$>1N$ to S	$1N$ to S	-

19 March 1958 U.T. (2) Aurora visible overhead at 68.5° during 05 and 11-12 hrs. Visible overhead at 64.6° during 11 and 14 hrs. Visible overhead at 61.4° during 13 hr. Aurora extended south of 59.9° during 15 hr. Change from quiet to active forms observed at College at 1104. (Bw-Fy -Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$4N_{\underline{Z}}$ to $S_{\underline{Z}}$	$2N_{\underline{Z}}$	$3N_{\underline{Z}}$ to $S_{\underline{Z}}$	$4N$ to S	-
$H_{\alpha,\beta}$	-	$2N_{\underline{Z}}$ to $S_{\underline{Z}}$	-	$4N_{\underline{Z}}$ to S	$3N_{\underline{Z}}$ to S	-
6300/5577	-	$>1N$ to S	$1N$ to S	<1	<1	-

20 March 1958 U.T. (1) Aurora visible overhead at 66.7° during 06-10 hrs. Apparent southern extent 64.1° reached during 08 hr. Changes from quiet to active forms observed at Ft. Yukon at 0804, 0943, and (1050). (Fy-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>3N_Z to S_Z</u>	<u>4N_Z to S</u>	-	-
H α , β	-	<u>3N to S</u>	<u>4N_Z to S</u>	<u>4N to S</u>	-	-
6300/5577	-	< 1	<u>1N to S</u>	<u><1N to S</u>	<u>1N to S</u>	-

21 March 1958 U.T. (4) Aurora visible overhead at 68.5° during 07-08 and 10-11 hrs. Visible overhead at 65.8° during 06-13 hrs. Apparent southern extent 63.1° reached during 14 hr. Changes from quiet to active forms observed at Bettles at 0810, and 0955. (Bw-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>3N_Z to S</u>	<u>3N_Z to S</u>	<u>3N_Z to S_Z</u>	-
H α , β	-	<u>3N to S</u>	<u>2N_Z to S</u>	-	<u>1S</u>	-
6300/5577	-	<u>1N to S</u>	< 1	< 1	< 1	-

22 March 1958 U.T. (1) Aurora visible overhead at 68.5° during 13 hr. Visible overhead at 65.8° during 09 and 11-12 hrs. Apparent southern extent 63.1° reached during 09 hr. Changes from quiet to active forms observed at Bettles at 1138 and (1230). (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N</u>	<u>3N to S</u>	<u>2N_Z to S_Z</u>	-
H α , β	-	-	<u>2N_Z to S</u>	<u>1N_Z to S_Z</u>	-	-
6300/5577	-	<u>> 1N to S</u>	<u>1N to S</u>	< 1	< 1	-

23 March 1958 U.T. (8) Aurora visible overhead at 68.5° during 07-11 and 13 hrs. Visible overhead at 65.8° during 06-10 hrs. Apparent southern extent 63.1° reached during 06 and 09 hrs. Changes from quiet to active forms observed at Bettles at 0750 and 1024. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>3N to S</u>	<u>4N_Z to S</u>	<u>3N_Z to S_Z</u>	<u>4N_Z to S</u>
H _{α,β}	-	-	-	<u>3N</u>	-	-
6300/5577	-	<u>>1N to S</u>	<u>< 1</u>	<u>< 1</u>	<u>< 1</u>	<u>1N to S</u>

24 March 1958 U.T. (7) Aurora visible overhead at 68.5° during 07-13 hrs. Visible overhead at 65.8° during 06-10 hrs. Visible overhead at 61.4° during 10-11 hrs. Aurora extended south of 59.9° during 10 hr.. Changes from quiet to active forms observed at Bettles at 0747 and 0930. (Bw-Fy-Bt-Co-Fw).

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>3N to S</u>	<u>4N_Z to S</u>	<u>3N_Z to S_Z</u>	<u>4N_Z to S</u>
H _{α,β}	-	-	-	<u>3N</u>	-	-
6300/5577	-	<u>>1N to S</u>	<u>< 1</u>	<u>< 1</u>	<u>< 1</u>	<u>1N to S</u>

25 March 1958 U.T. (7) Aurora visible overhead at 68.5° during 07-09 and 11-13 hrs. Visible overhead at 64.6° during 07-11 and 13 hrs. Visible overhead at 61.4° during 11 hr.. Apparent southern extent 60.9° reached during 11 hr.. Changes from quiet to active forms observed at College at 0738, 0959, and 1318. (Bw-Fy-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>4N_Z to S_Z</u>	<u>4S_Z & S</u>	<u>4N_Z to S</u>	<u>4N to S</u>
H _{α,β}	-	<u>4N to S</u>	<u>3S_Z to S</u>	<u>3S_Z & S</u>	-	-
6300/5577	-	<u>> 1N to S</u>	<u>< 1</u>	<u>< 1</u>	<u>< 1</u>	<u>1N to S</u>

26 March 1958 U.T. (8) Aurora visible overhead at 68.5° during 09-10 and 12-13 hrs. Visible overhead at 65.8° during 09-12 hrs. Visible overhead at 61.4° during 11-14 hrs. Aurora extended south of 59.9° during 11 hr.

Changes from quiet to active forms observed at Bettles at 0942 and 1108.

(Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	1N to S	2N _Z to S _Z	3N _Z to S	4N _Z to S _Z	3N to S
H _{α,β}	-	-	4N to S	4N to S	4N to S	3N to S
6300/5577	-	>1N to S	>1N to S	>>1N to S	>>1N to S	>1N to S

27 March 1958 U.T. (3) Aurora visible overhead at 68.5° during 07-13 hrs. Visible overhead at 65.8° during 08-10 hrs. Visible overhead at 61.4° during 10-11 hrs. Aurora extended south of 59.9° during 11 hr. Changes from quiet to active forms observed at Bettles at 1100 and (1345). (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	2N to N _Z	4N to S	4S _Z to S	-
H _{α,β}	-	-	3N to N _Z	3S _Z	4N _Z to S	-
6300/5577	-	-	1N to S	1N to S	<1	-

28 March 1958 U.T. (1) Aurora visible overhead at 68.5° during 07-12 hrs. Visible overhead at 65.8° during 08-13 hrs. Apparent southern extent 63.1° reached during 10 hr. Changes from quiet to active forms observed at Bettles at 0907 and (1106). (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	1N to S	2N to S	3N _Z to S _Z	3N _Z	-
H _{α,β}	-	2S _Z	4N _Z to S	4N to S	-	-
6300/5577	-	1N to S	1N to S	<1	<1	-

29 March 1958 U.T. (8) Aurora visible overhead at 68.5° during 08-12 hrs.
Visible overhead at 65.8° during 08-09 hrs. Apparent southern extent 65.1°
reached during 09 hr. Changes from quiet to active forms observed at Bettles
at 0950 and 1035. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N & S</u>	<u>2N to N_Z</u>	<u>2N to N_Z</u>	-	-
H _{α} , β	-	-	<u>1N_Z</u>	-	-	-
6300/5577	-	<u>1N to S</u>	>1	> 1	-	-

30 March 1958 U.T. (3) Aurora visible overhead at 68.5° during 09 hr.
Visible overhead at 65.8° during 08-09 and 11-12 hrs. Apparent southern
extent 63.1° during 08 and 11 hrs. Changes from quiet to active forms
observed at Bettles at 0831 and 1126. (Bw-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>1N to S</u>	<u>3N_Z to S</u>	<u>3S_Z to S</u>	<u>4N_Z to S</u>	-
H _{α} , β	-	-	-	<u>3S_Z to S</u>	<u>4N to S</u>	-
6300/5577	-	<u>1N to S</u>	<1	< 1	1S	-

31 March 1958 U.T. (2) Aurora visible overhead at 68.5° during 08-13 hrs.
Visible overhead at 65.8° during 10-12 hrs. Aurora extended south of 59.9°
during 11 hr; Changes from quiet to active forms observed at Bettles at
0834 and 1044. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>2N to S</u>	<u>2N to S</u>	<u>4N to N_Z</u>	-	-
H _{α} , β	-	-	<u>3S_Z & S</u>	-	-	-
6300/5577	-	> <u>1N to S</u>	> <u>1N_Z</u>	>> <u>1N to S</u>	-	-

1 April 1958 U.T. (0) Aurora visible overhead at 68.5° during 08-11 hrs. Visible overhead at 65.8° during 09 and 12 hrs. Apparent southern extent 64.3° reached during 09 hr. Changes from quiet to active forms observed at Bettles at (0910) and 1242. (Bw-Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>2N to S</u>	<u>3N_Z to S_Z</u>	<u>3N_Z to S_Z</u>	-
H _{α,β}	-	-	-	-	-	-
6300/5577	-	-	<u>>1N to S</u>	<u>1N to S</u>	<u>>1N to S</u>	-

2 April 1958 U.T. (0) Aurora visible overhead at 65.8° during 09 hr. Apparent southern extent 64.3° reached during 09 and 11 hrs. Change from quiet to active forms observed at Bettles at 0939. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	<u>4N_Z to S</u>	<u>4N_Z to S_Z</u>	<u>3N_Z to S_Z</u>	<u>3N_Z to S_Z</u>	-
H _{α,β}	-	-	-	-	-	-
6300/5577	-	<u>>>1N to S</u>	<u>>1N to S</u>	<u>>1N to S</u>	<u>>1N to S</u>	-

3 April 1958 U.T. (0) Aurora visible overhead at 68.5° during 06, 08, and 10-11 hrs. Visible overhead at 65.8° during 10-11 hrs. Apparent southern extent 65.1° reached during 10 hr. Change from quiet to active forms observed at Bettles at (1020). (Bw-Fy-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>2N to S</u>	<u>2N to S</u>	<u>3N_Z to S</u>	<u>2N to S</u>
H _{α,β}	-	-	-	-	-	<u>1N_Z & S</u>
6300/5577	-	-	<u>>1N to S</u>	<u>>1N to S</u>	<u>1N to S</u>	<u><1</u>

4 April 1958 U.T. (2) Aurora visible overhead at 68.5° during 07-09 and 11 hrs. Visible overhead at 65.8° during 08 hr. Apparent southern extent 61.9° reached during 07 hr. Change from quiet to active forms observed at Bettles at 0808.

(Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	$3N_Z$ to S	$3N$ to S	$3N$ to S	$3N$ to S
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	-	$1N$ to S	< 1	> $1N$ to S	> $1N$ to S

5 April 1958 U.T. (3) Aurora visible overhead at 68.5° during 08-12 hrs. Visible overhead at 65.8° during 08-10 hrs. Visible overhead at 61.4° during 13-14 hrs. Aurora extended south of 59.9° during 13 hr. Changes from quiet to active forms observed at Bettles at 0954 and (1035). (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	$4N$ to S	$4N_Z$ to S	$4N$ to S	-	-
$H_{\alpha, \beta}$	-	2S	-	-	-	-
6300/5577	-	>> $1N$ to S	>> $1N$ to S	>> $1N$ to S	-	-

6 April 1958 U.T. (5) Aurora visible overhead at 68.5° during 10-12 hrs. Visible overhead at 65.8° during 07-11 hrs. Visible overhead at 61.4° during 14-15 hrs. Aurora extended south of 59.9° during 14 hr. Changes from quiet to active forms observed at Bettles at 0955 and 1030. (Bw-Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	$4N_Z$ to S_Z	$4N_Z$ to S	$3N$ to S	-
$H_{\alpha, \beta}$	-	-	$4N$ to S	$3N_Z$ to S	$3N_Z$ to S	-
6300/5577	-	-	>> $1N$ to S	$1S_Z$ & S	> $1S_Z$	-

7 April 1958 U.T. (5) Aurora visible overhead at 68.5° during 10-11 hrs.
Visible overhead at 65.8° during 07-10 hrs. Aurora extended south of 59.9°
during 11 hr. Changes from quiet to active forms observed at Bettles at 0838
and 1011. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	4N _Z	4N _Z to S	3N to S	-	-
H _α ,β	-	3S	3S	2S _Z	-	-
6300/5577	-	>1N to S	1S	1S	-	-

8 April 1958 U.T. (1) Aurora visible overhead at 68.5° during 09-11 hrs.
Visible overhead at 65.8° during 08-12 hrs. Aurora extended south of 64.3°
during 09 hr. Change from quiet to active forms observed at Bettles at 1106.
(Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	4N _Z	4N _Z to S	3N to S	-
H _α ,β	-	-	3S	3S	2S _Z	-
6300/5577	-	-	>1N to S	1S	1S	-

9 April 1958 U.T. (3) Aurora visible overhead at 68.5° during 11 hr. Visible
overhead at 65.8° during 08-11 hrs. Apparent southern extent 64.5° reached
during 09 hr. Changes from quiet to active forms observed at Bettles at 0804,
1011, and 1110. (Bw-Fy-Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	2N to S	4N to S _Z	4N to S _Z	3N to S _Z	4N to S
H _α ,β	-	-	-	4N to S _Z	-	-
6300/5577	-	1N & N _Z & S	1N	< 1	> 1S _Z	1N to S _Z

10 April 1958 U.T. (1) Aurora visible overhead at 66.7° during 09-11 hrs.

Apparent southern extent 65.1° during 09 hr. Change from quiet to active forms observed at Ft. Yukon at 0909. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	1N to N_Z & S	$3N_Z$	$4N_Z$	$3N_Z$	-
$H_{\alpha, \beta}$	-	-	$3N_Z$	$2N_Z$	$1N_Z$	-
6300/5577	-	1N	$1N_Z$ to S_Z	$>1N_Z$	$>1N_Z$	-

11 April 1958 U.T. (3) Aurora visible overhead at 65.8° during 09 hr. Aurora extended south of 64.1° during 09 hr. Change from quiet to active forms observed at Bettles at 0930. (Bt-Co)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	3N to S_Z	4N & N_Z	4N to S_Z	-
$H_{\alpha, \beta}$	-	-	3N & N_Z	$3N_Z$	-	-
6300/5577	-	$>1N_Z$ to S	1N to S_Z	$>1N_Z$	$>1N$ to S_Z	-

12 April 1958 U.T. (1) Aurora visible overhead at 66.7° during 09 hr. Apparent southern extent 65.1° reached during 09 hr. Change from quiet to active forms observed at Ft. Yukon at 0902. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	4N & N_Z	4N & N_Z	4N to S	-
$H_{\alpha, \beta}$	-	-	3N & N_Z	2N	-	-
6300/5577	-	$>1N$ to S	$>1N$ & N_Z	$>1N$ & N_Z	$>1N$ to S	-

13 April 1958 U.T. (0) Aurora visible overhead at 65.8° during 11 hr. Aurora extended south of 64.3° during 10 hr. Change from quiet to active forms observed at Bettles at 1103. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	4N to S	4N & N ₂	2N ₂ to S ₂	3N ₂ to S	-
H _{α,β}	-	-	2N to N ₂	-	-	-
6300/5577	-	1N to S	>1N to N ₂ & S	1N to S	1N to S	-

14 April 1958 U.T. (3) Aurora visible overhead at 65.8° during 10 hr. Apparent southern extent 62.9° reached during 11 hr. Change from quiet to active forms observed at Bettles at 1001. (Fy-Bt-Co-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	3N	4N to S	4N to S	-
H _{α,β}	-	-	-	4N ₂ to S	-	-
6300/5577	-	>1N to S	>1N & S	1N to S	<1N to S	-

15 April 1958 U.T. (-) Aurora overhead at 65.8° during 09-11 hrs. Visible overhead at 61.4° during 08 and 14 hrs. Apparent southern extent 60.9° reached during 08 and 14 hrs. Change from quiet to active forms observed at Bettles at 0950. (Fy-Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	4N to S	3N ₂ to S	4N to S	-
H _{α,β}	-	-	4N ₂ to S	-	-	-
6300/5577	-	>1N to S	1N to S	1N to S	>1N to S	-

16 April 1958 U.T. (-) Aurora visible overhead at 65.8° during 09 hr. Visible overhead at 61.4° during 11-14 hrs. Aurora extended south of 59.9° during 13 hr. Change from quiet to active forms observed at Bettles at 0909.

(Fy-Bt-Fw)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	4N to S	4N _Z to S	4N _Z to S _Z	4N _Z to S _Z	-
H _{α,β}	-	-	3S _Z	-	4N _Z to S	-
6300/5577	-	1N to S	>1N to S	<1	<1	-

17 April 1958 U.T. (1) Aurora visible overhead at 65.8° during 08 and 10-12 hrs. Apparent southern extent 64.3° reached during 10 hr. Change from quiet to active forms observed at Bettles at 1049. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	4N to S	4N to S	4N _Z to S _Z	3N to S	-
H _{α,β}	-	-	-	-	-	-
6300/5577	-	>1N to S	<1	1S _Z to S	1N to S	-

18 April 1958 U.T. (-) Aurora visible overhead at 66.7° during 09-10 hrs. Aurora extended south of 66.1° during 09 hr. Change from quiet to active forms observed at Ft. Yukon at 0905. (Fy)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	4N _Z to S	4N _Z to S	2N to S	-
H _{α,β}	-	-	-	-	-	-
6300/5577	-	>1N to S	<1	1N to S	1N to S	-

19 April 1958 U.T. (1) Aurora visible overhead at 66.7° during 09-10 hrs.
 Apparent southern extent 64.3° reached during 09 hr. Change from quiet to
 active forms observed at Ft. Yukon at 0901. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	3N to S	3N to S	4N to S	2N to S	-
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	>1N to S	< 1	< 1	< 1	-

20 April 1958 U.T. (1) Aurora visible overhead at 65.8° during 09-10 hrs.
 Aurora extended south of 64.3° during 09 hr. Change from quiet to active
 forms observed at Bettles at 0954. (Fy-Bt)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	2N to S	4N to S _Z	3N _Z to S _Z	3N to S	-
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	>1N to S	>1N to S	< 1	< 1	-

21 April 1958 U.T. (0) Ft. Yukon, cloudy with aurora in far north. Bettles,
 cloudy. Farewell, cloudy and no aurora.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	2N to S	3N _Z to S	3N _Z to S _Z	-	-
$H_{\alpha, \beta}$	-	-	-	-	-	-
6300/5577	-	< 1	< 1	< 1	-	-

22 April 1958 U.T. (2) Aurora visible overhead at 66.7° during 09-10 hrs.

Aurora extended south of 65.2° during 09 hr. Change from quiet to active forms observed at Ft. Yukon at 0920. (Fy)

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	-	<u>3N to S</u>	<u>2N to S</u>	-
H α , β	-	-	-	-	-	-
6300/5577	-	-	-	<u>1N to S</u>	< 1	-

23 April 1958 U.T. (0) Ft. Yukon, cloudy. Bettles, camera trouble and no aurora. Farewell, cloudy and no aurora. No spectrograph scalings.

24 April 1958 U.T. (0) Aurora visible overhead at 66.7° during 09-10 hrs. Apparent southern extent 65.3° reached during 09 hr. Change from quiet to active forms observed at Ft. Yukon at 1026. No spectrograph scalings. (Fy-Bt)

25 April 1958 U.T. (0) Ft. Yukon and Bettles, cloudy. Farewell, partly cloudy and no aurora. No spectrograph scalings.

26 April 1958 U.T. (0). Ft. Yukon and Bettles, cloudy. Farewell, camera trouble. No spectrograph scalings.

27 April 1958 U.T. (0) Ft. Yukon and Bettles, cloudy. Farewell, camera trouble. No spectrograph scalings.

28 April 1958 U.T. (-) Ft. Yukon and Bettles, cloudy. Farewell, camera trouble.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>3N to S</u>	<u>4N to S</u>	-	-
H α , β	-	-	-	-	-	-
6300/5577	-	-	<u>1N to S</u>	1	-	-

29 April 1958 U.T. (-) Ft. Yukon and Bettles, cloudy. Farewell, camera trouble.

No spectrograph scalings.

30 April 1958 U.T. (-) Ft. Yukon and Bettles cloudy. Farewell, partly cloudy, camera trouble and aurora in far north.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>2N to S</u>	<u>2N to S</u>	-	-
H α , β	-	-	-	-	-	-
6300/5577	-	-	<u>1N to S</u>	<u>1N to S</u>	-	-

1 May 1958 U.T. (-) Ft. Yukon and Bettles, cloudy. Farewell, camera trouble.

U.T. Time	04-06	06-08	08-10	10-12	12-14	14-16
3914	-	-	<u>3N to S</u>	<u>3N to S</u>	-	-
H α , β	-	-	-	-	-	-
6300/5577	-	-	<u>1N to S</u>	<u>1N to S</u>	-	-

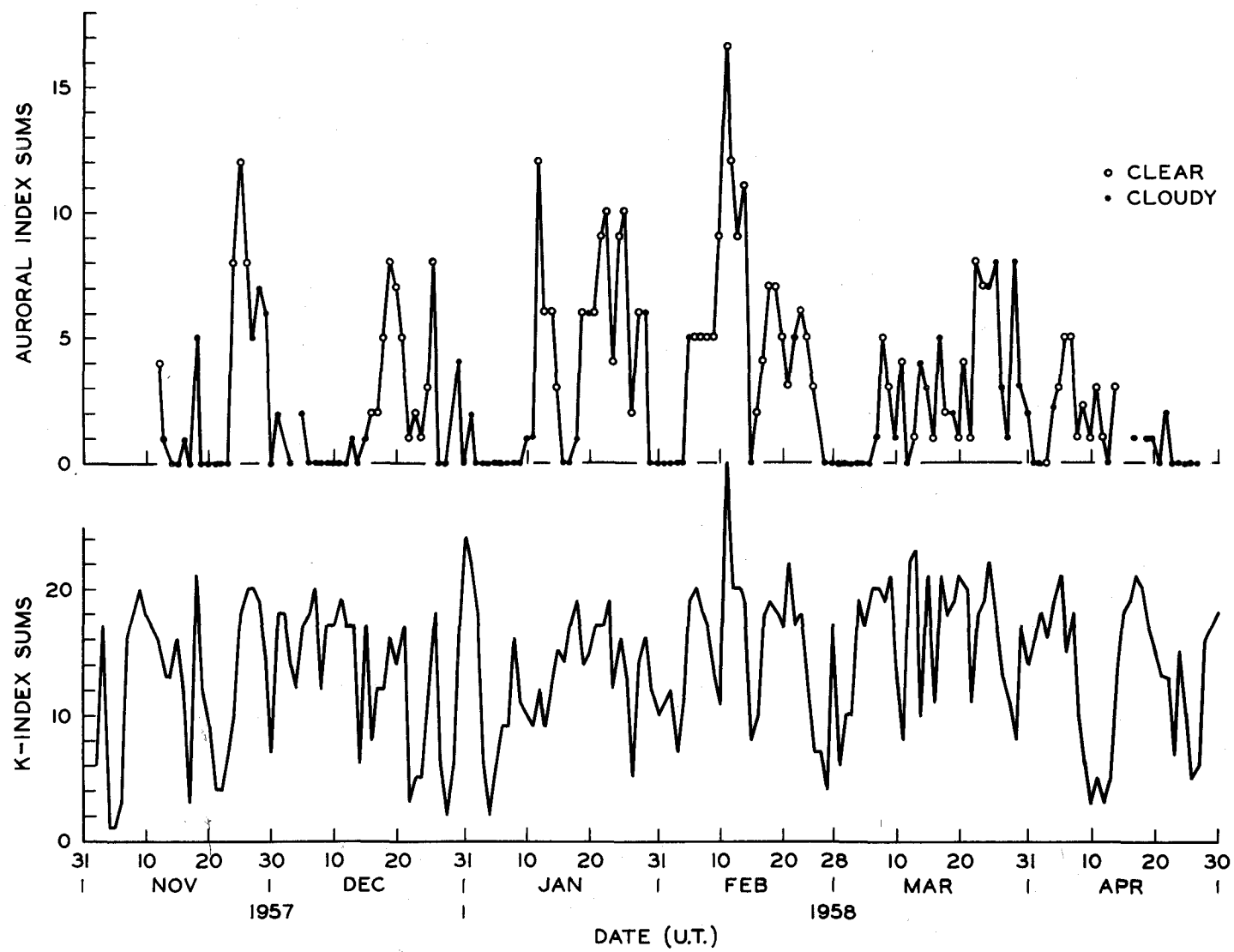


Fig. 1. Nightly Sums of College Auroral Indices and Nightly (03-15^h UT) Sums of College K-Indices.

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